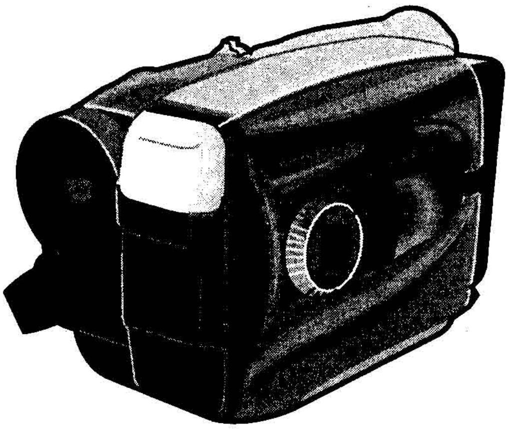
JVC

SERVICE MANUAL

COMPACT VHS CAMCORDER

GR-AX800U/AX900U



Compact VHS

SPECIFICATIONS

GENERAL

Format	: VHS NTSC standard
Power source	: DC 6 V⎓
Power consumption	: GR-AX900 light off: 6.2 W GR-AX800 light off: 6.0W Video light: 3 W
Signal system	: NTSC-type
Video recording system	: Luminance: FM recording Color: Converted sub-carrier direct recording Conforms to VHS standard
Cassette	: VHSC cassette
Tape speed (SP)	: 33.35 mm/sec (1-5/16 ips)
(EP)	: 11.12 mm/sec (7/16 ips)
Recording time	
Max. (SP)	: 40 minutes (with TC-40 cassette)
(EP)	: 120 minutes (with TC-40 cassette)
Operating temperature	: 0°C to +40°C (32°F to 104°F)
Operating humidity	: 35% to 80%
Storage temperature	: –20°C to +50°C (–4°F to 122°F)
Weight	: GR-AX900: Approx. 800 g (1.8 lbs) : GR-AX800: Approx. 820 g (1.8 lbs)
Dimensions (incl. viewfinder)	: GR-AX900: 112(W) x 112(H) x 209(D) mm (4-7/16" x 4-7/16" x 8-1/4") : GR-AX800: 112(W) x 112(H) x 220(D) mm (4-7/16" x 4-7/16" x 8-11/16")

CAMERA

Pick up	: 1/4"-format CCD
Minimum required illumination	: 3 lx (0.3 fc)† (F1.6)
Illumination range	: 3 to 100,000 lx (0.3 to 9,300 fc)
Lens	: F1.6, f = 4.2 to 50.4 mm, 12:1 power zoom lens* with auto iris and macro control, filter diameter 43 mm
Viewfinder	: Electronic viewfinder with • 0.55" color LCD (GR-AX900) • 0.5" black/white CRT (GR-AX800)
White balance adjustment	: Auto/Manual adjustment

VIDEO

Output	: 1 Vp-p, 75 ohms, unbalanced (via VIDEO out connector)

AUDIO

Output	: –8 dBs, 1 k-ohm (via AUDIO out connector)

AC POWER ADAPTER/BATTERY CHARGER (AA-V11U) SPECIFICATIONS

Power requirement	: U.S.A. and Canada: AC 120 V∿, 60 Hz Other countries: AC 110 to 240 V∿, 50/60 Hz
Power consumption	: 23 W
Output	: DC 8.5 V⎓, 1.3 A (CHARGE), DC 6.3 V⎓, 1.8 A (VTR)
Charging system	: Constant current, peak detection, timer controlled
Dimensions	: 150(W) x 42(H) x 68(D) mm (5-15/16" x 1-11/16" x 2-11/16")
Weight	: Approx. 320 g (0.71 lbs)

CASSETTE ADAPTER (C-P7U) SPECIFICATIONS

Dimensions	: 188(W) x 25(H) x 104(D) mm (7-7/16" x 1" x 4-1/8")
Weight	: Approx. 240 g (0.53 lbs)
Accessory	: "AA (R6)"-size battery x 1

For provided accessories, ☞ P. 7
For optional accessories, ☞ P. 46

Notes:

†Less than 1 lx (0.1 fc) in Slow shutter mode. (☞ P. 21)

*Up to 120x digital zoom magnification.

Specifications shown are for SP mode unless otherwise specified.
E.&O.E.Design and specifications subject to change without notice.

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No. 86249
January 1995

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The following table lists the differing points between Models (GR-AX800U and GR-AX900U/U(C)) in this series.

	GR-AX800U	GR-AX900U/U(C)
VIEWFINDER	BLACK/WHITE	COLOR

O : USED

× : NOT USED

NOTE: U/U(C) is this manual mean U for USA and U(C) for CANADA

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded (▨) parts are critical for safety.
Replace only with specified part numbers.
Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers
   4) Insulation sheets for transistors
   5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

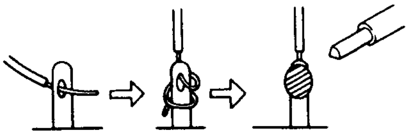


Fig. 1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10—15 kg of force in any direction will not loosen it.

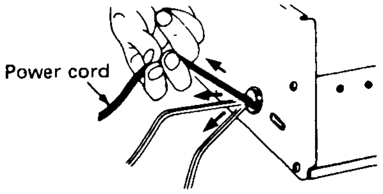


Fig. 2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.
   1) **Connector part number** : E03830-001
   2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.
   3) **Replacement procedure**
      (1) Remove the old connector by cutting the wires at a point close to the connector.
      Important : Do not reuse a connector (discard it).

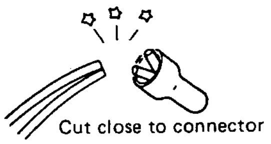


Fig. 3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

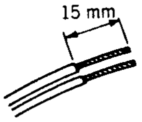


Fig. 4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

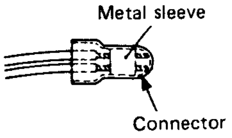


Fig. 5

(4) As shown in Fig. 6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

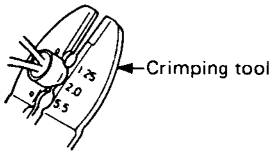


Fig. 6

(5) Check the four points noted in Fig. 7.

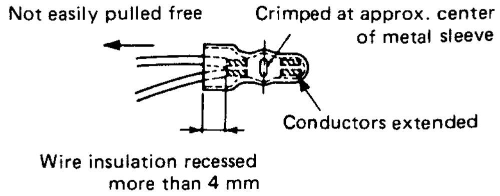

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig. 7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. **Insulation resistance test**
   Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. **Dielectric strength test**
   Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. **Clearance distance**
   When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

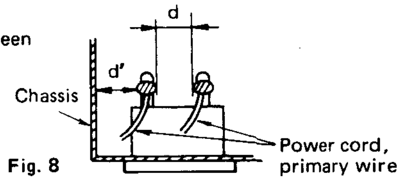


Fig. 8

4. **Leakage current test**
   Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).
   Measuring Method: (Power ON)
   Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

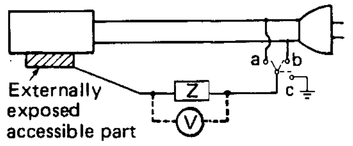


Fig. 9

5. **Grounding (Class I model only)**
   Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).
   Measuring Method:
   Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

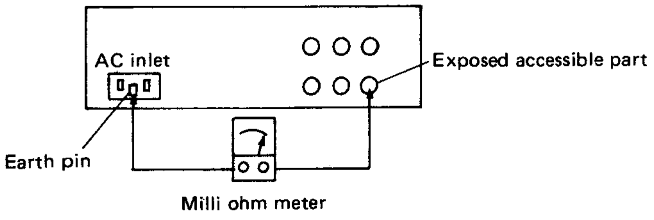


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 minute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	–	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ /500 V DC	AC 3 kV 1 minute (Class II) AC 1.5 kV 1 minute (Class I)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

INSTRUCTIONS

Thank you for purchasing the JVC Compact VHS camcorder. Learn about all the available features and take advantage of them for your total moviemaking enjoyment. Before using this camcorder, read this instruction booklet carefully so that you will obtain the best results from your camcorder.

SAFETY PRECAUTIONS

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

The AA-V11U AC Power Adapter/Charger should be used with:
AC 120 V∿, 60 Hz in the USA and Canada,
AC 110 – 240 V∿, 50/60 Hz in other countries.

CAUTION (applies to the AA-V11U)

TO PREVENT ELECTRIC SHOCK MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION (s'applique à l'AA-V11U)

POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.

You are recommended to carefully read the cautions on pages 42 and 43 before use.

Warning on lithium battery

The battery used in this device may present a fire or chemical burn hazard if mistreated. Do not recharge, disassemble, heat above 100°C (212°F) or incinerate.
Replace battery with CR2025; use of another battery may present a risk of fire or explosion.

- Dispose of used battery promptly.
- Keep away from children.
- Do not disassemble and do not dispose of in fire.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

NOTES:

- The rating plate (serial number plate) and safety caution are on the bottom and/or the back of the main unit.
- The rating plate (serial number plate) of the AC Power Adapter/Charger is on its bottom.

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled "Digital Apparatus", ICES-003 of the Department of Communications.

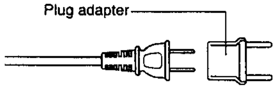
Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Class B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques", NMB-003 édictée par le ministre des Communications.

When using the AC Power Adapter/Charger in areas other than the USA

- The provided AC Power Adapter/Charger features automatic voltage selection in the AC range from 110 V to 240 V.

USING HOUSEHOLD AC PLUG ADAPTER

In case of connecting the unit's power cord to an AC wall outlet other than American National Standard C73 series type use an AC plug adapter, called a "Siemens Plug", as shown.
For this AC plug adapter, consult your nearest JVC dealer.



VHS C HQ

Cassettes marked VHS C can be used with this camcorder.

This camcorder is designed to be used with NTSC-type color television signals. It cannot be used for playback with a television of a different standard. However, live recording and viewfinder playback are possible anywhere. Use the BN-V12U/V22U/V25U/V60U battery packs and, to recharge them, the provided multi-voltage AC Power Adapter/Charger. (An appropriate conversion adapter may be necessary to accommodate different designs of AC outlets in different countries.)

INFORMATION

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Change or modifications not approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help.

ATTENTION:

The product that you have purchased is powered by a rechargeable battery. The battery is recyclable. At the end of its useful life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

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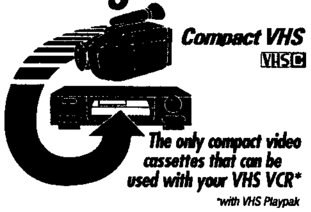
MAJOR FEATURES

REMEMBER

The Logical Choice


Compact VHS
VHS-C
The only compact video cassettes that can be used with your VHS VCR*
*with VHS Playpak

No other compact cassettes can be played back on your VHS VCR*.

JVC COMPACT VHS ADVANTAGES

☞ Convenience
Easy playback on your VHS deck* — no hook-ups necessary.

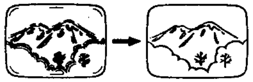
☞ Conserve
You don't have to use the camcorder for playback — this reduces the wear of the camcorder.

☞ Comfort
Can use the convenient features of your VCR with the remote control from your easy chair.

☞ Communication
Can send your tapes to others who also own a VHS VCR.

☞ Choice
Can also view the playback picture through the viewfinder or connect directly to a TV.

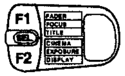
Digital Image Stabilizer (☞ P. 18)



Program AE with Special Effects (☞ P. 20, 21)

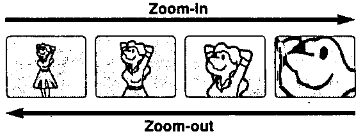
- *Auto Mode Lock* ■ *Auto Mode Release*
- 120x Digital Zoom ■ Strobe Effect
- Classic Film ■ Twilight ■ Slow Shutter
- Sports ■ High Speed (1/2000 sec.) Shutter

Intelligent Function Control (☞ P. 23 – 27)


F1
F2
FADER
FOCUS
TITLE
CINEMA
EXPOSURE
DISPLAY

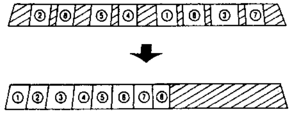
Snapshot and Motor Drive Modes (☞ P. 19)

120x Digital Hyper Zoom (☞ P. 18)


Zoom-in
Zoom-out

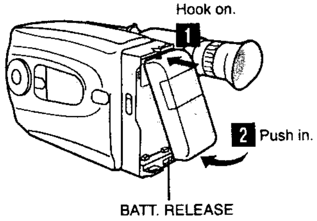
Integrated Auto Light (☞ P. 19)

Random Assemble Editing (☞ P. 35 – 37)



QUICK OPERATION GUIDE

SUPPLY POWER

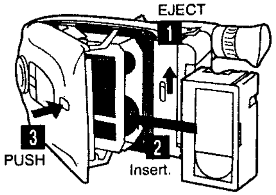

Hook on.
1
2 Push in.
BATT. RELEASE

Using the battery pack

1. Hook-on the battery pack's top end to the camcorder. (Charging procedure, ☞ P. 10)
2. Push in the battery pack until it locks into place.

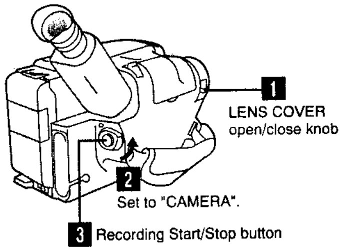
To remove the battery pack
Slide BATT. RELEASE and pull out the battery pack.

INSERTING A VIDEO CASSETTE


EJECT
1
3
PUSH
2
Insert.

1. Slide EJECT.
2. Insert a video cassette.
3. Press PUSH.
   (For more details, ☞ P. 13.)

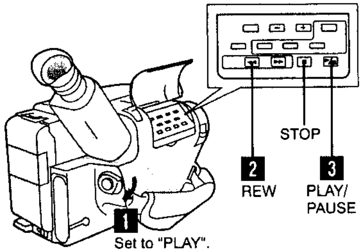
SHOOTING


1
LENS COVER open/close knob
2
Set to "CAMERA".
3 Recording Start/Stop button

1. Slide the LENS COVER open/close knob to open the lens cover.
2. Set the power switch to "CAMERA".
   — The power indicator will light and image will be seen in the viewfinder.
3. Press the Recording Start/Stop button.
   — Recording starts.

- To stop recording temporarily, momentarily press the Recording Start/Stop button once again.
  (For more details, ☞ P. 16)

PLAYBACK

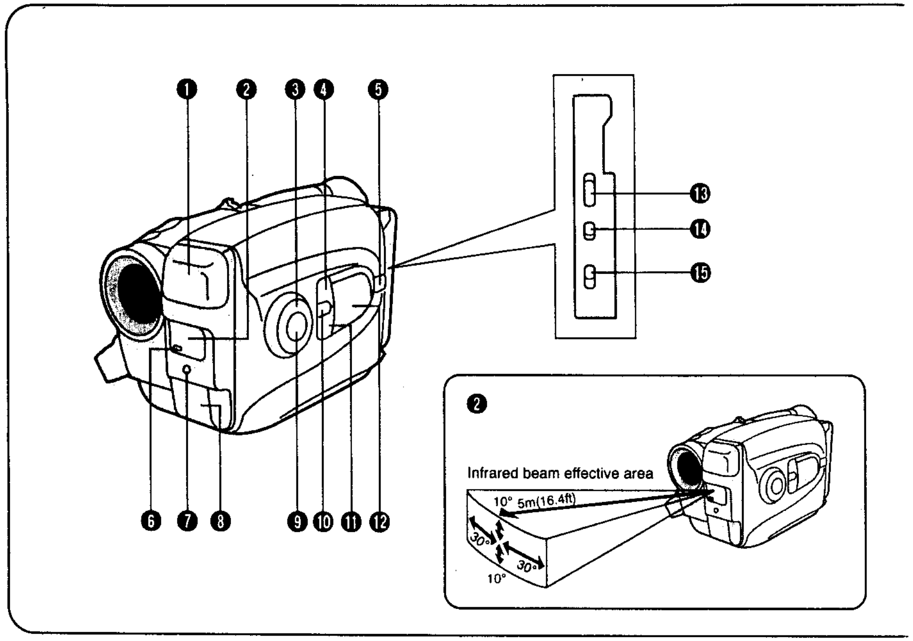

STOP
2
REW
3
PLAY/PAUSE
1
Set to "PLAY".

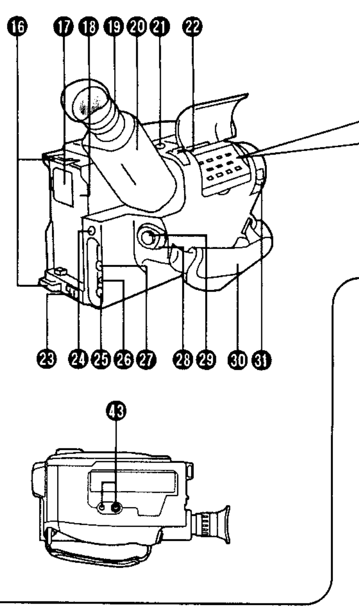
1. Set the power switch to "PLAY".
2. Press REW.
   — The tape will automatically stop at the beginning of the tape.
3. Press PLAY/PAUSE.
   — Playback starts and playback picture appears in the viewfinder.

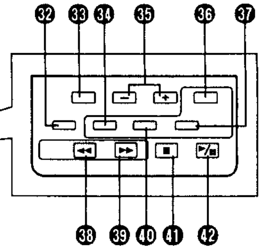
- To stop playback, press STOP.
  (For more details, ☞ P. 30.)

- Or simply play back the tape on a VHS VCR using the Cassette Adapter (VHS Playpak). ☞ P. 32

CONTROLS AND CONNECTORS







No.	Page
❶ Video light	19, 40
❷ Infrared beam sensor window Receives the transmitted beam signal from the remote control unit. *The transmitted beam may not be effective or may cause misoperations when the infrared beam sensor window is directly exposed to sunlight or powerful lighting. • Be careful not to cover this area; built-in here is the sensor necessary for shooting.	
❸ PROGRAM AE select dial	20
❹ F1 (Function 1) button For Fader, Focus and Titles.	23, 24, 27
❺ PUSH button	13
❻ Tally lamp	16
❼ REMOTE jack (capped) For connection of the RM-V20U wired remote control unit (optional).	
❽ Microphone	
❾ D.I.STABILIZER (Digital Image Stabilizer) button	18
❿ Function SEL. (select) button	23
⓫ F2 (Function 2) button For Cinema, Exposure and Display.	23, 25, 26
⓬ LCD window	23

No.	Page
⓭ EJECT switch	13
⓮ AUTO PAUSE ON/OFF switch	17
⓯ LIGHT ON/AUTO/OFF select switch	19
⓰ Eyelets for shoulder strap	15
⓱ Clock battery compartment	12
⓲ Battery pack mount	9
⓳ Diopter adjustment	14
⓴ Electronic viewfinder	14, 45
㉑ SNAPSHOT button	19
㉒ Power zoom switch	18, 25
㉓ BATT. (battery) RELEASE switch	9

Connectors

The jacks ㉔ to ㉗ are located beneath the jack cover.

No.	Page
㉔ EDIT jack	34, 37
㉕ VIDEO out jack	33, 34, 37
㉖ RF DC OUT jack For connection of the RF-V5U RF unit (optional).	33
㉗ AUDIO out jack	33, 34, 37
㉘ POWER switch	16, 30
㉙ Recording Start/Stop button	16
㉚ Grip strap	15
㉛ LENS COVER open/close knob	16, 40

Operation buttons

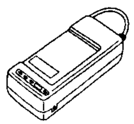
The buttons ㉜ to ㊷ are located beneath the cover.

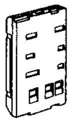
No.	Page
㉜ MWB (Manual White Balance) button	22
㉝ SP-EP recording mode and T20·30·40 tape length select/COUNTER R (reset)/M (memory) button	14, 31
㉞ EDIT button	34, 37
㉟ DATE/TIME/CHAR. –/+ select/TRACKING buttons	12, 27, 30
㊱ DATE/TIME/CHAR. SET/R.A.EDIT IN/OUT button	12, 36
㊲ R.A.EDIT button	36
㊳ REW/RETAKE R/⟲ (Quick Review) button	17, 30
㊴ FF/RETAKE F button	17, 30
㊵ R.A.EDIT CANCEL button	36
㊶ STOP button	30
㊷ PLAY/PAUSE button	30, 31

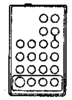
Bottom

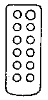
No.	Page
㊸ Tripod mounting socket	15

PROVIDED ACCESSORIES

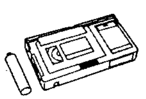

AC power
adapter/charger
AA-V11U (☞ P. 9, 10)

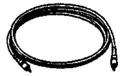

Battery pack
BN-V12U
(☞ P. 9, 10)


Remote control unit
RM-V706U
(provided with
GR-AX900)
(☞ P. 8, 28, 38)


Remote Control Unit
RM-V705U
(provided with
GR-AX800)
(☞ P. 8, 28, 38)

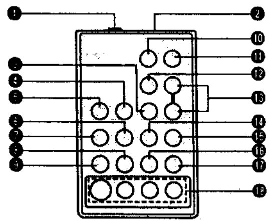
Shoulder strap
(☞ P. 15)


Cassette adapter
(VHS Playpak) C-P7U
(☞ P. 32)

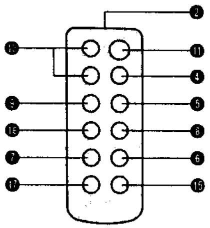

Editing cable
(☞ P. 34, 37)

Lithium battery CR2025
(☞ P. 8, 12)

CONTROLS AND CONNECTORS (Cont'd)



RM-V706U (provided with GR-AX900)



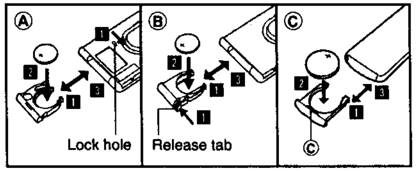
RM-V705U (provided with GR-AX800)

REMOTE CONTROL UNIT

The provided Full-Function Remote Control Unit can operate this camcorder from a distance as well as the basic operations (PLAY, STOP, PAUSE, FF, and REW) of your VCR. This remote control unit makes additional recording functions possible.

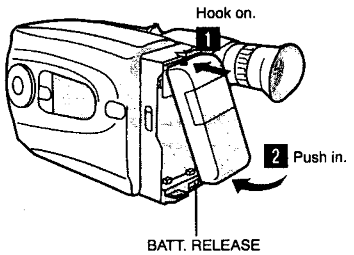
Inserting the battery

1. Pull out the battery holder according to the type of remote control unit you have.
   Type Ⓐ : Pull out the battery holder while sliding the lock hole.
   Type Ⓑ : Pinch the release tab and pull out the battery holder.
   Type Ⓒ : Pull out the battery holder by inserting a pointed instrument into slot Ⓒ.
2. Insert the lithium battery (CR2025), with its plus (+) side up, into the battery holder.
3. Replace the battery holder until it clicks in place.
   *Read warning on lithium battery. (☞ P. 2)



Buttons	**Functions**	
	With the camcorder's power switch set to "CAMERA".	With the camcorder's power switch set to "PLAY".
● **PAUSE IN connector**	—	☞ P. 37
● **Infrared beam transmitting window**	Transmits the beam signal.	
● **MBR SET button**	—	☞ P. 35
● **INT. TIME button**	Self-Timer/Time lapse (☞ P. 28, 29)	—
● **REC TIME button**	Animation/Time lapse (☞ P. 29)	—
● **FF button**	Retake (Forward)	FF/FF Shuttle Search
● **REW button**	Retake (Rewind)	Rew/Rew Shuttle Search
● **PAUSE button**	—	Pause
● **PLAY button**	—	Playback start
● **SNAPSHOT button**	Snapshot (☞ P. 19)	—
● **START/STOP button**	Functions same as the Recording Start/Stop button of the camcorder.	
● **VISS button (RM-V706U only)**	Index code marking (☞ P. 18)	—
● **ZOOM (T/W) buttons**	Zoom (invariable speed, ☞ P. 18)	—
● **VCR CTL button (RM-V706U only)**	—	☞ P. 35
● **A. *DUB* button**	—	Audio dubbing (☞ P. 39)
● **STOP button**	—	Stop
● **INSERT button**	—	Insert Editing (☞ P. 38)
● ***R. A. EDIT buttons (RM-V706U only)***	—	☞ P. 36

PREPARATIONS

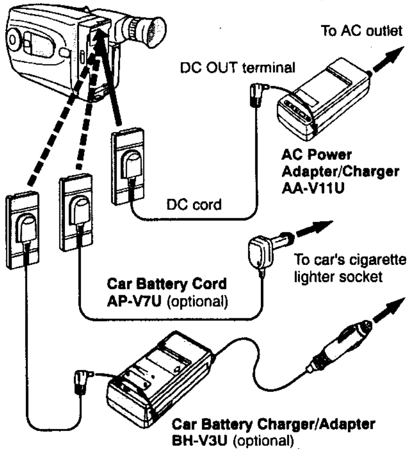


Approximate recording time

	GR-AX900	GR-AX800
BN-V12U	60 min. (35 min.)	60 min. (40 min.)
BN-V22U	120 min. (80 min.)	130 min. (80 min.)
BN-V25U	165 min. (105 min.)	170 min. (110 min.)
BN-V60U	120 min. (80 min.)	130 min. (80 min.)

( ): when the video light is on

- The recording time per charge is influenced by the duration of the recording standby, frequency of zooming, etc. It is safer to have spare battery packs.


To AC outlet
DC OUT terminal
AC Power Adapter/Charger AA-V11U
DC cord
To car's cigarette lighter socket
Car Battery Cord AP-V7U (optional)
Car Battery Charger/Adapter BH-V3U (optional)

POWER SUPPLY SYSTEM

The convenient 3-way power supply system gives you a choice of the most appropriate power supply unit, depending on the application.

- No function is available without power supply.
- Do not use any power supply other than specified.
- Never attempt to use these power supply units with any equipment other than the camcorder.
- The provided AC Power Adapter/Charger features automatic voltage selection in the AC range from 110 V to 240 V.

WITH BATTERY PACK

The battery pack has been kept in the uncharged state for shipment. Therefore, before use, be sure to charge it. (☞ See next page.)

Attaching the battery pack

1. Hook-on the battery pack's top end to the camcorder. (Charging procedure, ☞ P. 10)
2. Push in the battery pack in until it locks into place.

To remove the battery pack

Slide BATT. RELEASE and pull out the battery pack.

WITH AC POWER

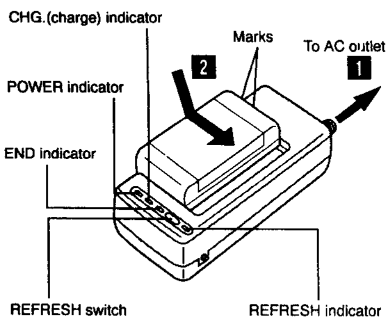
Use the AC Power Adapter/Charger.

IN A CAR

Use the Car Battery Cord or Car Battery Charger.

- Leave the car's engine idling when using the car battery.
- The battery pack can also be recharged with the BH-V3U.
- Refer to the instruction booklet of the BH-V3U (for use with 12 V or 24 V negative grounded cars only) and the AP-V7U (for use with 12 V negative grounded cars only).

(Continued on next page.)



	Charging time	Discharging time
BN-V12U	approx. 70 min.	approx. 210 min.
BN-V22U	approx. 130 min.	approx. 420 min.
BN-V25U	approx. 160 min.	approx. 600 min.
BN-V60U	approx. 130 min.	approx. 420 min.

- The diagrams above indicate the approximate charging and discharging times of battery packs that are fully charged.
- Charging time and discharging time will vary depending on the ambient temperature and the status of the battery pack.

POWER SUPPLY SYSTEM (cont'd)

CHARGING/DISCHARGING THE BATTERY PACK

Charging the battery pack

1 Connect the AC power cord to a wall outlet.
— The power indicator lights.

2 Align marks and slide the battery pack in the direction of the arrow until it locks in place.
— The CHG. indicator lights.
— When charging has been completed, the END indicator will light.

3 Slide the battery pack in the opposite direction of the arrow.

Using the REFRESH feature

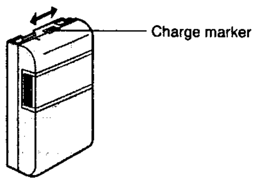
The REFRESH feature on the AC power adapter allows you to completely discharge the power from the battery pack before charging. After charging the battery pack several times, the actual battery operating time will gradually decrease. For this reason it is recommended to use the REFRESH feature only after every 5 charges.

1 Attach the battery pack to the adapter as illustrated above.

2 Push REFRESH.
— The REFRESH indicator will light and discharging will begin.
— After discharging is completed, the indicator will go off.

CHARGE MARKER OF THE PROVIDED BATTERY PACK

Located on top of the battery, this marker is convenient for reminding you of the battery's charge status. Decide for yourself which marker colors — red and black — will represent charged and discharged.



- **"Battery charged" — RED**

After charging (as soon as charging is completed), set this marker so that red appears.

- **"Battery discharged" — BLACK**

Upon detaching the discharged battery from the camcorder, set this marker so that black appears.

CAUTION

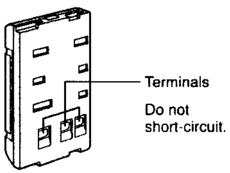
This marker does not move automatically. Make sure that the marker is properly set to accurately indicate the battery's charge status.

Notes:

- Do not repeatedly recharge a battery pack without fully discharging it. Its service life will decrease. Use the REFRESH feature after every 5 charges.
- Even if a battery pack is fully charged, but is not used, it naturally discharges gradually. Be sure to recharge the battery pack just before using it, or the day before you intend to use it.
- This unit is normally warm during operation. Operate it in places having good ventilation. Do not allow it to discharge in a container, such as a bag, etc. Blocking the ventilation causes the temperature inside the unit to rise, possibly resulting in a damaged unit.
- If either recharging or discharging is stopped in the middle of the process, remove the battery pack before unplugging the AC cord.
- This unit incorporates an over-discharging protection circuit; however, immediately remove the battery pack from this unit after discharging has been completed to maintain the battery pack's capacity.
- If used near a radio, the AC Power Adapter/Charger may interfere with reception.
- Be sure to unplug the DC cord before charging or discharging the battery pack.
- Before storing the battery pack for a long period it is recommended to discharge it.
- The REFRESH feature will not function if the power status of a battery pack is discharged (No power remaining).
- When the CHG.indicator is blinking, the battery pack has become hot. Wait for a while for the battery pack to cool.
- With a just-purchased battery pack, or with a battery pack that has been stored for a long period, the CHG. indicator may not light properly. In such a case, remove and reattach the battery pack again, then do the recharging procedure. The CHG. indicator should light during recharging to indicate, the battery pack is normal. If this is not the result, consult your nearest JVC dealer.

[illegible]

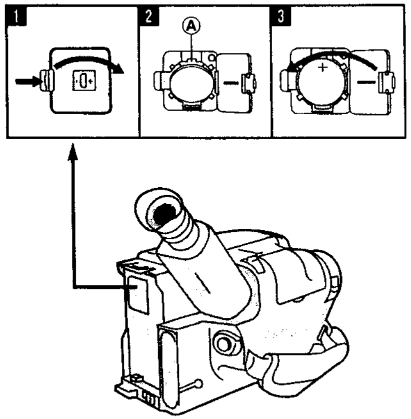
The battery packs are nickel-cadmium batteries. Be sure to carefully read the following caution. When using an optional battery pack, please also read attached caution.



Temperature ranges:
The recharging time is based on room temperature of 20°C.
The lower the temperature, the longer the recharging time.

For charging:10°C to 35°C
For operating:0°C to 40°C
For storing:–10°C to 30°C

- **To avoid hazard:**
  - Do not burn.
  - Do not short-circuit the terminals.
  - Do not modify or disassemble.
  - Use only specified chargers.
- **To prevent damage and prolong service life:**
  - Avoid dropping, unnecessary shocks.
  - Avoid repeated charging without discharging.
- **This unit has a limited service life:**
  Near the end of its service life, when it begins to deliver less recording time per charge, purchase a replacement.
- **It is normal for the unit to be warm after charging or use.**
- **This is a chemical reaction type battery; its properties are best maintained under the following conditions:**
  - Optimum charging takes place at temperatures between 10°C and 35°C. Cooler temperatures impede chemical reaction. Warmer temperatures can prevent complete charging.
  - Store in a cool dry place. Extended exposure to high temperatures will increase natural discharge and shorten service life.
  - Total natural discharge may occur during long storage periods. (Uncharged storage is preferable; recharge one day before use.)
  - Remove from charger or powered unit when not in use; some machines use current even when switched off.



CLOCK (LITHIUM) BATTERY INSERTION

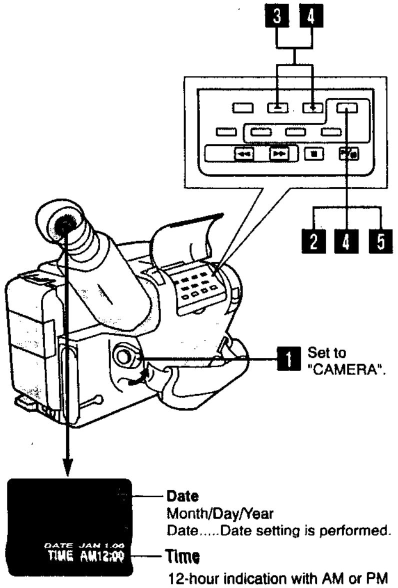
Necessary for clock and date/time settings.

* Switch off the unit's power and remove the power supply unit before inserting or removing the clock battery.

1. Open the clock battery compartment cover while pressing the release tab.
2. Insert the provided lithium battery with the plus (+) side up and push it in.
   * When removing the battery, insert a pointed non-metallic object between the battery and the compartment (Ⓐ) to pull it out.
3. Close the compartment cover until it clicks in place.

Warning on lithium battery
- Dispose of used battery promptly.
- Keep away from children.
- Do not disassemble and do not dispose of it in fire.

(See Warning on lithium battery, ☞ P. 2)



Date
Month/Day/Year
Date.....Date setting is performed.

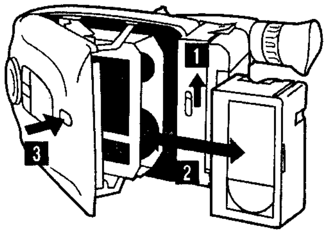
Time
12-hour indication with AM or PM
TIME....Time setting is performed.

SETTING DATE/TIME

Before adjusting the date and time for the first time or after replacing the clock battery.

1. Set the power switch to "CAMERA".
2. Press SET. — The month blinks.
3. Press – or + to choose the correct month.
4. Repeat steps 2 and 3 to set the day, year, hour and minute.
5. Press SET to start the clock.
   — Now that the setting is completed, blinking stops. Both the date and time will be displayed for confirmation, after which the date remains displayed by itself.

Notes:
- While the date or time are blinking, the clock does not keep time.
- When re-adjusting the data, press SET and –/+ to correct them. After adjustment is completed, both the date and time appear for confirmation, then the display returns to the mode before correcting.
- When PROGRAM AE is set to "AUTO MODE LOCK" (☞ P. 20), the date and time are displayed immediately after adjustments, after which the display automatically changes to Auto Date record mode. (☞ P. 26)



LOADING AND UNLOADING A CASSETTE

Loading

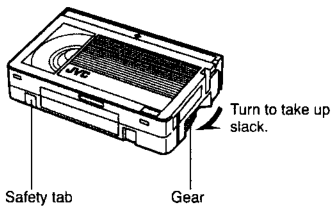
1. Slide EJECT. — The cassette holder opens.
2. Insert the cassette with its label facing outward.
3. Press PUSH and make sure that the cassette holder is closed and locked.

Unloading

1. Slide EJECT. — The cassette holder opens.
2. Remove the cassette.
3. Press PUSH and make sure that the cassette holder is closed and locked.

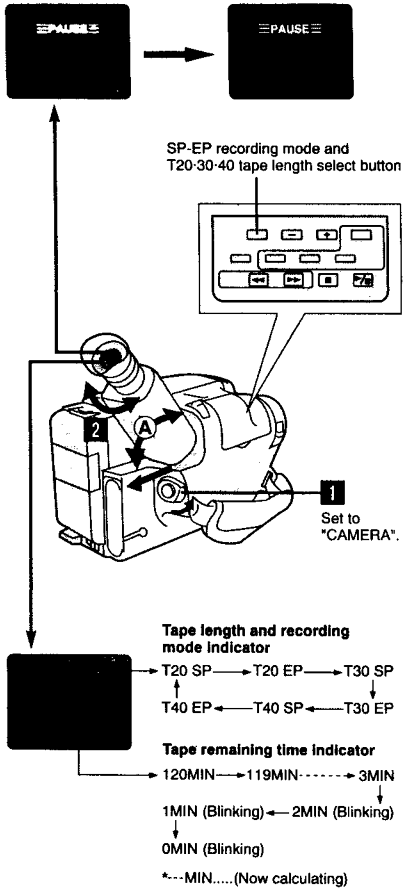
Note:
Sliding EJECT may open the cassette holder a few seconds later. Do not open the cassette holder by force.

[illegible]



Storage of cassettes
- Avoid exposing the cassettes to direct sunlight. Keep them away from heaters.
- Avoid storing the cassettes in humid or dusty places.
- Do not drop the cassettes. Do not expose them to violent vibrations or shocks.
- Do not expose the cassettes to strong magnetic fields (near a motor, transformer or magnet).
- Place the cassettes in cassette cases and position them vertically.

- This camcorder employs only the cassettes carrying the VHS-C mark.
- Recording onto prerecorded tapes automatically erases the previously recorded video and audio signals.
- An inverted cassette cannot be inserted.
- Do not load and unload the cassette repeatedly without allowing the tape to run at all. This will slacken the tape and thereby damage it.
- Make certain before loading the cassette that the tape is not slack. If there is any slack, turn the gear on the cassette in the direction of the arrow to take up slack.
- The cassette is equipped with a safety tab to prevent accidental erasure. When the tab is removed, recording is impossible. If you wish to record on a cassette whose tab has been removed, use adhesive tape to reseal the slot.
- To avoid excessive exposure to dust and fingerprints, do not open the front tape cover.


PAUSE
PAUSE
SP-EP recording mode and
T20·30·40 tape length select button
A
2
1
Set to "CAMERA".
Tape length and recording mode indicator
T20 SP → T20 EP → T30 SP
T40 EP ← T40 SP ← T30 EP
Tape remaining time indicator
120MIN → 119MIN ------ → 3MIN
1MIN (Blinking) ← 2MIN (Blinking)
0MIN (Blinking)
*---MIN.....(Now calculating)

VIEWFINDER ADJUSTMENT

- **Positioning**
  The viewfinder can be positioned for best viewability (Ⓐ).
- **Diopter adjustment**
  The viewfinder lens can be adjsuted to suit the operator's eyesight.

1 Set the power switch to "CAMERA".

2 Turn the diopter adjustment control until the indications in the viewfinder are clearly focused.

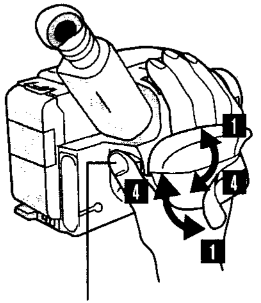
SET THE TAPE LENGTH AND THE RECORDING MODE

The tape remaining time is displayed in the viewfinder as shown. Before shooting, press the recording mode and tape length select button according to the tape length and the recording mode to be used.

- **T20** : When using a tape with 20-minute recording time (SP).
- **T30** : When using a tape with 30-minute recording time (SP).
- **T40** : When using a tape with 40-minute recording time (SP).
- **SP** : To maintain sound and picture quality. Better for dubbing later.
- **EP** : To record 3 times longer than when in the SP mode. For more economical use of tape.

Notes:

- If the recording mode is switched during actual recording on the same tape, the playback picture will be blurred at the point of switching.
- The indicated remaining time is approximate.
- The time required to calculate the remaining tape length and accuracy of the calculation may vary according to the type of tape used.
- "TAPE END" appears when the tape reaches its end. "TAPE END" also appears when a cassette is loaded whose tape is already at its end.
- The tape remaining time displayed in the viewfinder is correct only if the correct tape length is selected.


1
4
4
1
Recording Start/Stop button

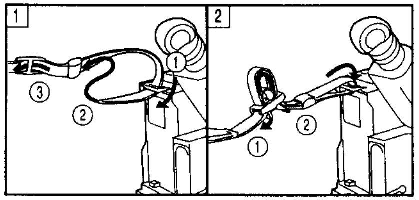
ADJUSTING THE GRIP

1 Separate the Velcro strip to expand the loop.

2 Pass your right hand through the loop and grasp the grip.

3 Adjust the length of the strap so that your thumb and fingers can easily operate the Recording Start/Stop button and power zoom buttons.

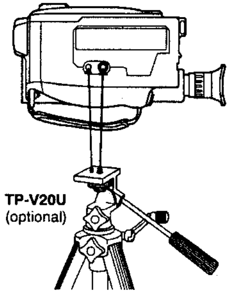
4 Refasten the Velcro strip.



ATTACHING THE SHOULDER STRAP

1 Loop the end of the strap over the top of the eyelet ①, then, folding it back, thread the end of the strap first through the keeper ②, then the buckle ③. Making sure that the strap is not twisted, repeat the above procedure to attach the other end of the strap to the other eyelet.

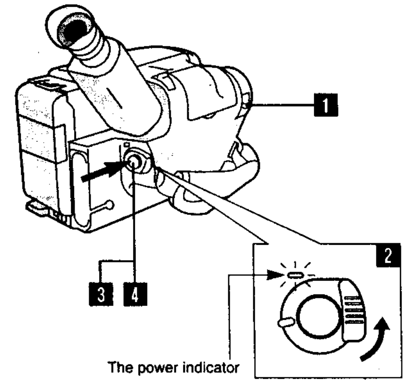
2 Adjust the shoulder strap to the desired length ①, then slide both keepers up snug against the eyelets to prevent the strap from slipping ②.

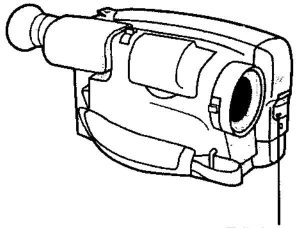

TP-V20U
(optional)

TRIPOD MOUNTING

Align the screw and camera direction stud of the tripod with the camera's tripod mounting socket and stud hole, and firmly tighten the screw.

RECORDING OPERATION





SHOOTING

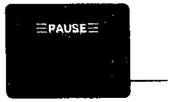
Preparations

- Supply power. (☞ P. 9.)
- Insert a video cassette correctly. (☞ P. 13.)
- Adjust the grip strap. (☞ P. 15.)
- Set SP/EP as required. (☞ P. 14.)

1. To enter the Record-Standby mode

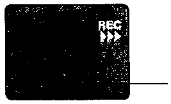
1 Slide the LENS COVER open/close switch to open the lens cover.

2 Set the power switch to "CAMERA".
  — The power indicator lights and the camcorder enters the Record-Standby mode.
  The aimed-at scene will appear on the viewfinder screen.



2. To shoot the scene

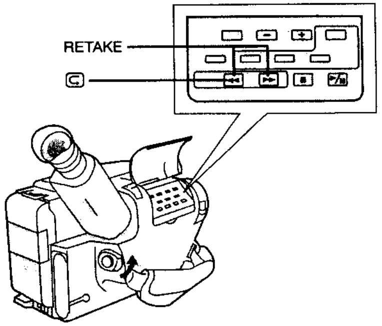
3 Press the Recording Start/Stop button to start recording.
  — The tally lamp lights while the recording is in progress.

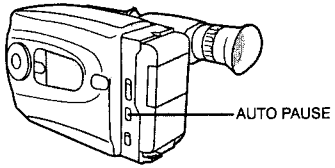


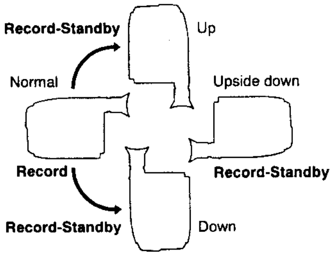
4 To stop recording temporarily. (To enter the Record-Standby mode)
  Press the Recording Start/Stop button once again.
  - To restart recording.
    Press the Recording Start/Stop button.
  - Repeating steps 3 and 4 produces assemble recordings.

Notes and Advice

- For a longer pause, set the power switch to "POWER OFF" to save power.
- When a tape reaches its end during recording, "TAPE END" indicator will appear in the viewfinder and power itself off automatically if left for longer than 5 minutes.
- If the Record-Standby mode continues for longer than about 5 minutes, the unit switches itself off automatically. To restart recording, turn the power on and press the Recording Start/Stop button. This makes clean assembled recordings possible even after a long pause.
- When turning off the camcorder with the power switch set to "CAMERA", be sure to set the switch to "POWER OFF" first. Then set it back to "CAMERA" to turn on the camcorder again.
- When recording with a cassette that has been removed from the unit in the middle of use, first re-locate the end of the last recording (i.e. the point that you want to start recording from) by using the Retake function (☞ P. 17) after re-inserting the *cassette. Otherwise, the end of the last recording may be erased.*
- Lens cover warning blinks for approx. 5 seconds, whether the lens cover is open or closed, everytime the unit is turned on. It lets the user check to see if the cover is open. (☞ P. 45)







QUICK REVIEW

If you want to review the end of the last recording for confirmation, use this function.

- Press for less than 2 seconds from the Record-Standby mode.
  — The tape will be rewound for about 2 seconds of program time and played back automatically for this section, after which it will pause in the Record-Standby mode for the next shot.

[illegible]

While recording, you may decide to re-record certain segments. The Retake function is convenient for this.

1 Make sure the camcorder is in the Record-Standby mode. (If not, engage the mode.)

2 Press either RETAKE to reach the point where you wish a new recording to start.
  - When RETAKE is released, the camera will enter the Record-Standby mode again.

3 Press the Recording Start/Stop button.
  — Recording starts.

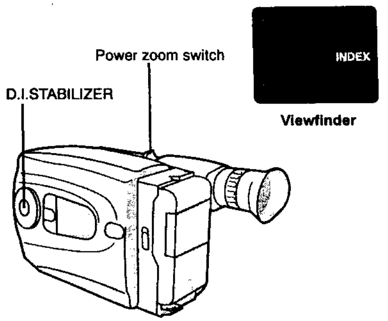
[illegible]

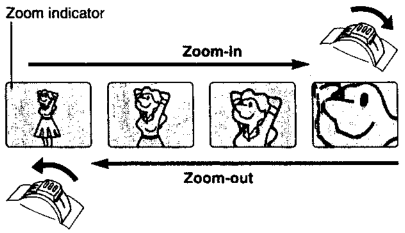
With the Auto Pause system, the camcorder automatically stops recording when it is pointed down. This function prevents shooting the ground, your feet, etc. by mistake.

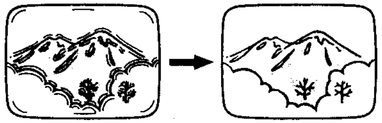
- Set AUTO PAUSE to "ON".
  — When the camcorder is tilted down by a large degree from its horizontal position during recording, it will automatically enter the Record-Standby mode, and the "AUTO PAUSE" indication will appear in the viewfinder.
  — Pressing the Recording Start/Stop button resumes recording.
- The Auto Pause system is also effective when the camcorder is pointed up or upside down.
- This system is also effective about a large degree twist to the left or right side from the horizontal position.
- To shoot in any of the above mentioned positions,set AUTO PAUSE to "OFF".

Notes and Advice

- Distortion might occur when playback starts in the Quick Review mode. This is normal.
- Noise may appear during Retake. This is normal.







INDEX CODE MARKING

The VHS Index Search System (VISS) gives you automatic access to any point you select on a recording. Only the marking aspect of the Index Search System is included in this unit. It allows index codes to be placed on recorded tape for convenient dubbing or editing on VCRs with an Index Search function.

- An index code is always marked at the beginning of the first recording after the date advances and a cassette is inserted.
  — "INDEX" blinks while marking.
- The RM-V706U/RM-V700U* remote control unit allows index codes to be marked in any desired position. (☞ P. 28)
  *The RM-V706U is provided with GR-AX900, and the RM-V700U is optional.

ZOOMING

Pushing up/pulling down the power zoom switch ("T" and "W") will vary the focal length of the lens and hence produce zooming effect.

Maximum magnification is approximately 24x. Zooming level from 12x to 24x (between "T" and "D" of the zoom indiator) is digital magnification.

Procedure

- Pulling down to T : Zoom in on the image (bring it nearer).
- Pushing up to W : Zoom out.
- Zooming speed is variable. The further the switch is pulled down or pushed up, the faster the zoom speed becomes.

When the PROGRAM AE select dial is set to "120x Digital Zoom", up to 120x magnification is possible. (☞ P. 20)

DIGITAL IMAGE STABILIZER

To compensate for the unstable images caused by camera-shake (especially noticeable at high zoom ranges), this camcorder incorporates a Digital Image Stabilizer .

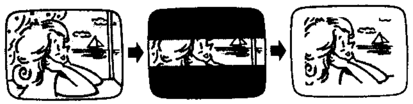
To switch on/off the Digital Image Stabilizer:

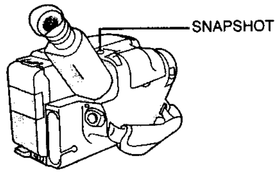
Press D.I.STABILIZER.

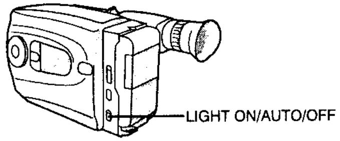
- While the Digital Image Stabilizer is engaged, "✋" appears in the viewfinder.

Notes and Advice

- Focusing may become unstable during the zooming-in operation. In this case, first zoom in in the Recording Standby mode then, after using the manual focusing or the Focus Lock function (☞ P. 24, 25) to hold the focus fixed, zoom in or out in the Record mode.
- When shooting low-contrast subjects in the Zoom-in mode, the camcorder automatically zooms out with the low contrast indicator (☞ P. 24) blinking and focus being performed.
- Digital zoom magnification processes the image electronically, causing a reduction in picture quality.
- Accurate stabilization may not be possible if hand shake is excessive, or when shooting the following: • Subjects with vertical or horizontal stripes • Low contrast subjects • Dark/dim subjects • Subjects with excessive backlighting • Scenes with movement in various directions • Low contrast backgrounds
- Digital Image Stabilizer (DIS) cannot be used while Strobe, Classic Film or Slow Shutter are activated. When any of these turned on while DIS is already on, the "✋" indicator blinks, telling you that DIS is unable to function.
- When shooting with the camcorder on a tripod, be sure to switch off the Digital Image Stabilizer.
- Auto marking also takes place when the date changes while shooting. In this case, the first recording after that does not mark an index code at its beginning.







CAUTIONS:

- The video light becomes extremely hot. Do not touch it either while in operation or soon after turning it off, otherwise serious injury may result.
- Do not place the camcorder into the carrying case immediately after using the video light, since it remains extremely hot.
- When operating, keep a distance of about 30 cm (1 ft.) between the video light and people or object.
- Do not use near flammable or explosive materials.

SNAPSHOT MODE

This interesting feature lets you record a white-bordered digital still that looks just like a photograph is being taken. Use it to liven up recordings of parties, weddings, graduations, and so on.

To engage the Snapshot mode:

Press SNAPSHOT.

- When engaged during recording, there will be a momentary camera shutter-type blackout, and a white-bordered still image is displayed and recorded for approx. 3 seconds. This still image automatically fades out, and the unit resumes normal recording.
- If engaged during pause, a still image is recorded for 3 seconds. After that, the unit enters the Record Pause mode.

Motor Drive mode:

Keeping SNAPSHOT pressed provides the effect similar to serial photography. (The interval between the still pictures: approx. 0.6 seconds)

[illegible] — To apply more light to the [illegible]

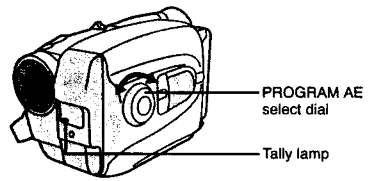
When natural lighting is too dim, you can brighten the scene by using the built-in video light.

1. Set the LIGHT ON/AUTO/OFF as required.
   ON : Always keeps the light on as long as the camcorder is turned on.
   AUTO : Automatically turns on the light when the camcorder senses insufficient lighting on the subject.
   OFF : Turns off the light.

- The video light can be used with the camcorder's power on.
- It is recommended to set the white balance to indoor mode (✳) (☞ P. 22) when you use the video light.
- When not using the video light, turn it off to save battery power.

Notes and Advice

- Even if the battery indicator (▭) does not blink in the viewfinder, if the battery pack's charge is low, the camcorder may turn off automatically when you turn on the video light, or when you start recording with the video light turned on.
- When the LIGHT ON/AUTO/OFF is set to "AUTO":
  - Depending on the lighting condition, the video light may not be stably turned on or off. In this case, switch the light on or off manually.
  - While the Sports or High-Speed Shutter mode (☞ P. 21) is engaged, the light is likely to stay on.
  - While the Twilight mode (☞ P. 21) is engaged, the light will not activate
  - The SNAPSHOT button of the RM-V706U (provided with GR-AX900) cannot be used for the Motor Drive mode.



Symbol on the PROGRAM AE select dial	Viewfinder Indication*	Mode
LOCK	A AUTO LOCK	Auto Mode Lock
RELEASE	M AUTO RELEASE	Auto Mode Release
120x	D. ZOOM 120x	120x Digital Zoom
	STROBE	Strobe
	CLASSIC FILM	Classic Film
	TWILIGHT	Twilight
	SLOW SHUTTER	Slow shutter
	SPORTS	Sports
1/2000	S 1/2000	High Speed (1/2000 sec.) Shutter

* When the PROGRAM AE select dial is switched from one mode to another, the newly selected mode's name and its indication is displayed in the viewfinder for approx. 3 seconds. Then the name disappears, and only the indication remains.

PROGRAM AE WITH SPECIAL EFFECTS

A variety of creative shooting effects are accessible with the PROGRAM AE select dial.

To engage any of the effects:
Turn the PROGRAM AE select dial so that the desired indication appears in the viewfinder.
— The chosen mode is activated approx. 1 second later.

Auto Mode Lock mode

Setting to this mode locks the camcorder in the Full Auto mode, eliminating the possibility of misoperation by accidentally touching the following buttons while shooting. It is convenient when asking someone else to do the shooting.

These controls cannot be used in this mode:
CINEMA, FADER, FOCUS, EXPOSURE, DISPLAY, TITLES, MWB.

Auto Mode Release mode

Lets you use the controls that were inactive in the Auto Mode Lock mode.

120x Digital Zoom mode

Boosts the maximum zoom magnification to approx. 120x.

Strobe mode

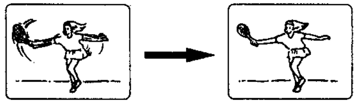
Successive still images are displayed in timed intervals. (Sound remains unchanged.) Similar to that used in some music videos.

Classic Film mode

Faster-speed strobe with black-and-white image that offers the vintage look of a film being shown on a movie projector. Using it with Cinema Mode (☞ P. 23) creates an authentic movie theater look.

Notes and Advice

- Only one Special effect can be activated at a time.


Sports mode, High-Speed Shutter mode

Twilight mode

Disengages the auto gain control and auto focus, and automatically locks the focus to infinity and white balance to ☀ (outdoor) mode. Dusk and twilight scenery, fireworks, etc. look more natural and dramatic.

- Manual adjustment of white balance (☞ P. 22), and focus (☞ P. 24) is possible.
- Re-engaging the auto focus mode is possible. (☞ P. 24)

Slow Shutter mode

This mode slows down the shutter speed to 1/15-sec. to boost light sensitivity. If makes shooting possible in extremely low-light situations.
Slow-Shutter also creates trailing images like "commet tails" which can be used as a creative special effect.

Sports mode

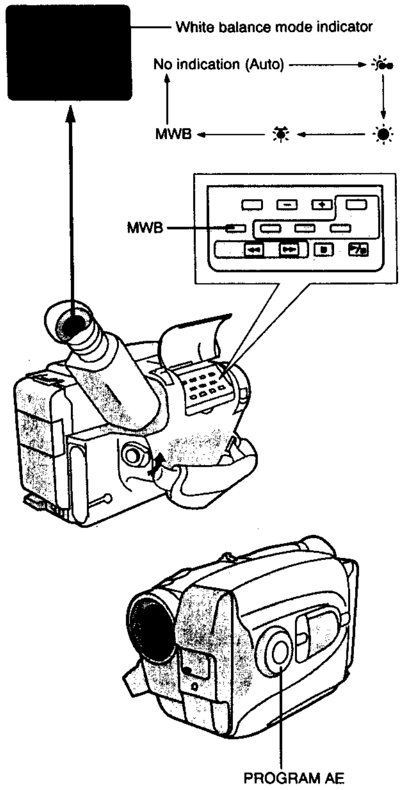
Uses high shutter speed to clearly capture fast-moving action with less blur. Clarity is especially noticeable during slow motion playback on a video deck. Great for sports, races, etc.

High-Speed Shutter mode (1/2000s. shutter)

This mode sets the shutter speed to 1/2000 sec. to clearly capture fast-moving action with less blur. Clarity is especially noticeable during slow motion playback on a video deck. Great for sports (i.e., golf swing), races, etc.
This mode can capture faster action than the Sports mode can.

Notes and Advice

- The screen becomes slightly dark with the High-Speed Shutter mode. Use this mode in the daytime outdoors and in other well-lighted situations.
- Picture color may be adversely affected in the High-Speed Shutter or Sports mode when the subject is lit by alternating discharge-type light sources such as fluorescent or mercury-vapor lights.



WHITE BALANCE ADJUSTMENT

This camcorder's Automatic Color Temperature system senses the color temperature of the ambient lighting for automatic white balance adjustment. However, precise color temperature adjustment is not possible under the following conditions:

- The object is in various shades of the same color.
- Predominantly red or brown object is being shot outdoors.

In these cases, use the camcorder's built-in preset filters for white balance adjustment.

To adjust the white balance:

Press MWB (Manual White Balance) so that the required indication appears in the viewfinder.

☁ ....When you shoot in the daytime outdoors (cloudy day)
☀ ....When you shoot in the daytime outdoors (sunny day)
✱ ....When the source of illumination is a halogen or tungsten lamp.
MWB.........In the following situations.

How to use the MWB mode

In the MWB mode, the camcorder automatically adjusts the color temperature of the subject's light source and keeps that color temperature during shooting. When shooting some subjects with different color temperatures, use the MWB mode to set a color temperature and you can shoot with natural colors that are not affected by surroundings.

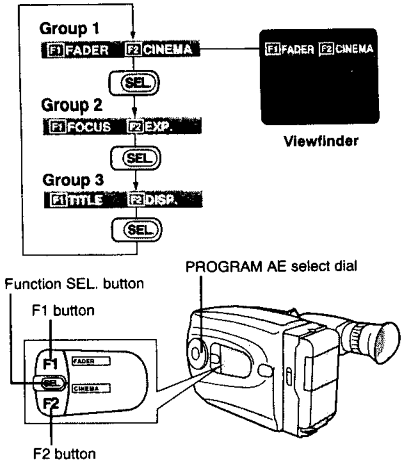
1. Press MWB until "MWB" appears in the viewfinder.
2. Point the camcorder at a white, flat object such as a sheet of white paper.
   - Adjust focus manually. (☞ P. 24)
3. Keep MWB pressed for more than about 3 seconds.
   ❶ "MWB" blinks in the viewfinder.........During adjustment
   ❷ "MWB" is lit...............................Adjustment is finished
   —The camcorder is now ready for shooting.

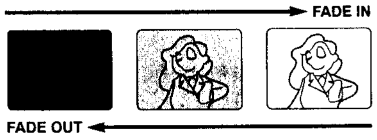
To switch to automatic adjustment:

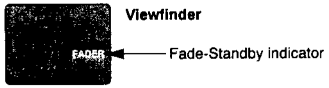
Press MWB until the indication disappears, or turn the PROGRAM AE to "LOCK".

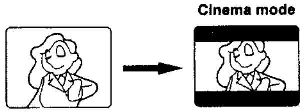
Notes and Advice

- Re-adjust the MWB mode in the following conditions:
  - When the lighting has changed.
  - When the camcorder has been turned off and on again.
  - When PROGRAM AE's position has been changed.
- Manual White Balance adjustment is not possible when PROGRAM AE is set to "LOCK". (☞ P. 20)
- It is helpful to connect your camcorder to a color monitor when adjusting the white balance.









INTELLIGENT FUNCTION CONTROL

When using the following functions:
Fader, Cinema mode, Manual focus adjustment, Exposure control, Display mode, Instant Title

1. Set the PROGRAM AE select dial to any position except LOCK.
2. Press Function SEL. so that the required function's indication appears in the viewfinder.
3. Press either F1 or F2 button.
   - The function displayed on the right of F1: F1 button
   - The function displayed on the right of F2: F2 button

   (For more details, ☞ P. 23 – 27)

FADER

This camcorder incorporates a fader function which allows smooth video fade-in and fade-out to a black blank screen.

Fade-in functions when the recording starts, and fade-out functions when the recording stops (and the Record-Standby mode is engaged.)

1. Press Function SEL. until "FADER" appears beside "F1".
2. Press F1 button.
   — The Fade-Standby mode is engaged.
   — "FADER" appears in the viewfinder.
3. Press the Recording Start/Stop button.
   — Fade-in/out functions.

CINEMA MODE

This camcorder incorporates a "Cinema" mode recording function which allows you to record black bars at the top and bottom of the screen to produce a cinema-like "wide-screen" effect.

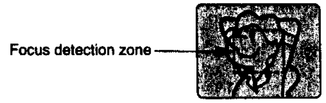
1. Press Function SEL. until "CINEMA" appears beside "F2".
2. Press F2 button.
   — The Cinema mode is engaged.

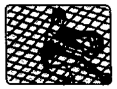
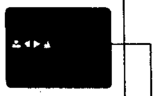
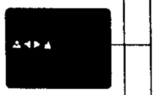
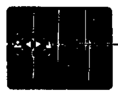
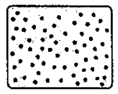
- To restore the normal screen:
  Press F2 button again while "CINEMA" is displayed beside F2 in the viewfinder.

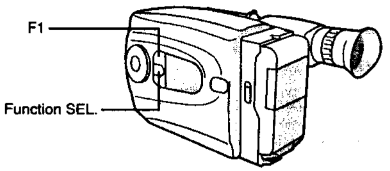
Notes and Advice

- Setting the PROGRAM AE select dial to "LOCK" causes the F1 F2 indicators in the viewfinder to vanish (the Intelligent Function Control becomes unavailable.) When the dial is switched to any other position, the Group 1 indicators (F1 FADER F2 CINEMA) are restored.
- Keeping the Recording Start/Stop button pressed as long as required in the Fader mode allows the user to record a black blank screen.

ADVANCED VIDEOGRAPHY TECHNIQUES
(Cont'd)



	Two subjects at different distances overlap in the same scene.
	Low illumination.
	The subject has no contrast (differences in brightness and darkness), such as a flat, one-color wall, or a clear, blue sky, for instance.
	Low-contrast warning. A dark object is barely visible in the viewfinder.
	Minute patterns or identical patterns that are regularly repeated.



FOCUSING

Auto-focus

The camcorder's Full Range AF system can offer continuous shooting ability from close-up to infinity. The rectangular focus area detects focus. (No actual indication provided in the viewfinder.)

- Correct focus may not be obtained in these situations on the left. In such case manual focusing should be performed to obtain proper focus.

Focus lock

This camcorder's focus lock function is especially useful in the following situations:

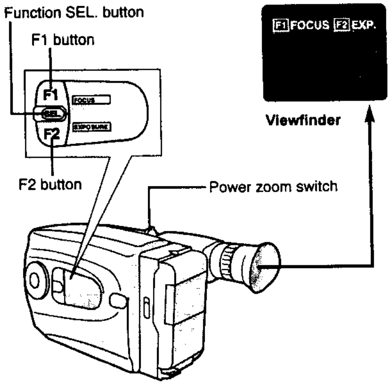
- When things pass between your subject and the camcorder, make sure to engage the focus lock function, to lock your subject in focus before recording.
- If you want your main subject to appear in a corner of the screen, you should first center it at the desired distance, then use the auto focus mode for focusing, engage the focus lock function, and move the camcorder till the subject is where you want it.

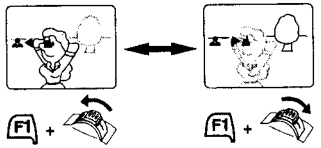
To lock the focus:

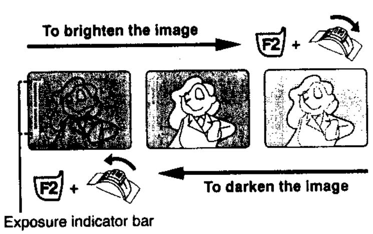
1. Press Function SEL. until "FOCUS" appears beside "F1".
2. Press F1.
   — The focus lock indication (◀ ▶) appears in the viewfinder.

To release the focus lock mode
(To engage the Auto Focus mode):

Press F1. At the moment when the button is released, the focus lock mode is canceled.
— FOCUS LOCK indication (◀ ▶) disappears.







Manual focus

For manual focus operation, proceed as follows:

1. Press Function SEL. until "FOCUS" appears beside "F1".
2. Slide the power zoom switch (to "T" or "W") with F1 button pressed.
   - **To adjust the focus to a farther subject:**
     Slide to T. The Manual Focus indications (▲ ▶▲) appear, and ▶ blinks.
   - **To adjust the focus to a closer subject:**
     Slide to W. The Manual Focus indications (▲◀ ▲) appear, and ◀ blinks.
   - Two manual focusing speeds are available. For slow-speed, push/pull the switch slightly and hold that position. For fast-speed, push/pull the switch fully.
   - When the focus level cannot be adjusted any farther or closer, the indicator (▲) or the indicator (▲) will blink.
3. When finished with focus adjustment, release the power zoom switch.
   — The Focus indication (◀ or ▶)disappears, and the focus lock indication (◀ ▶) appears. The adjusted focus is locked in.

- **To release the Manual Focus mode** (to engage the Auto Focus mode):
  Press F1. At the moment when the button is released, the Manual Focus mode is canceled.
  — FOCUS LOCK indication (◀ ▶) disappears.

EXPOSURE CONTROL

This camcorder offers automatic adjustment of iris to provide the best available picture quality, but this can be overidden in cases when manual control of iris is desired.

1. Press Function SEL. until "EXP." appears beside "F2".
2. Slide the power zoom switch ("T" or "W") with F2 button pressed.
   — The Exposure indicator bar appears in the viewfinder.
   - To brighten the image: Slide to T.
   - To darken the image: Slide to W.

- To restore the initial standard setting:
  Press F2. At the moment when the button is released, the standard setting is restored.
  — The Exposure indicator bar disappears.

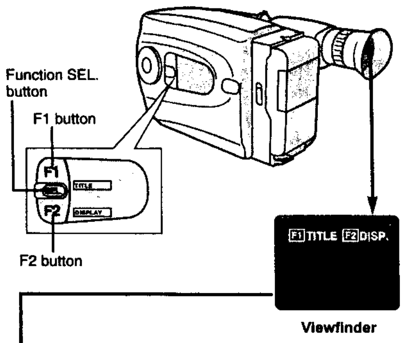
Notes and Advice

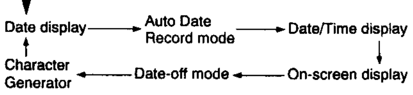
- If the lens is smeared with stains or blurred with condensation, accurate focusing is not possible. Keep them clean. If they become dirty, wipe with a piece of soft cloth. When condensation occurs, dry them by wiping with a soft cloth or wait for conditions in which they become dry.
- The Focus Lock function is not available when PROGRAM AE is set to "LOCK". (☞ P. 20)
- When shooting a subject that is close to the lens, zoom out first (☞ P. 18). If zoomed-in in the auto-focus mode, the camcorder could automatically zoom out depending on the distance between the camcorder and the subject.

Notes and Advice

- When you use the Manual Focus mode, be sure to focus the lens in the maximum telephoto position. If you focus in on a certain subject in the wide-angle position, sharply-focused images cannot be obtained when zoomed up because the depth- of-field is reduced at longer focal lengths.
- When focusing manually, make neccessary viewfinder adjustments (☞ P. 14), then focus in.
- Manual Focus operation and Exposure control are not available when PROGRAM AE is set to "LOCK". (☞ P. 20)
- With the Group 2 functions (F1: FOCUS, F2: EXP.(osure), ☞ P. 23) selected, the power zoom switch is ineffective while F1 or F2 button is kept pressed.

ADVANCED VIDEOGRAPHY TECHNIQUES (Cont'd)


Function SEL. button
F1 button
F2 button
F1
F2
TITLE
DISPLAY
F1 TITLE F2 DISP.
Viewfinder


Date display
Auto Date Record mode
Date/Time display
On-screen display
Date-off mode
Character Generator

Date display	Auto Date Record mode	
DEC 25.95	AUTO DATE Auto date record mode	DEC 25.95 Auto date record executed
Date/Time display	**Character Generator**	
DEC 25.95 PM 10:50	SET CHAR No Characters stored	IN PARIS, FRANCE Example of stored characters

DATE/TIME CHARACTER INSERT

Select the display mode

The date/time/character can be displayed and recorded according to the selected mode.

1. Press Function SEL. until "DISP." appears beside "F2".
2. Press F2 while in the Record-Standby mode to cycle through the modes in the order shown on the left.

Recording the display

The selected display mode can be recorded.

- When no display is needed on the recorded tape, select Date-off mode before shooting.
- To delete the display during recording, press F2.
  — If the display is to be called back on the screen, put the camcorder into the Record-Standby mode first. Then press F2 to select the desired mode.

Auto Date Record function

These functions allow the date (month, day and year) to be automatically recorded for about 5 seconds following the first operation of the Recording Start/Stop button:

= after changing the date.
= after a cassette is loaded, or
= after its mode is selected by F2.

- In the Auto Date Record mode, the viewfinder indication shows the date during the initial 5 seconds, then changes to "AUTO DATE".

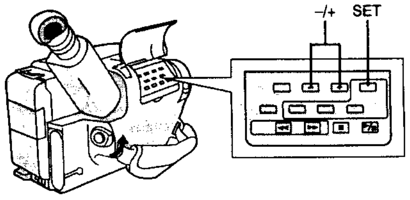
On-Screen Display Mode

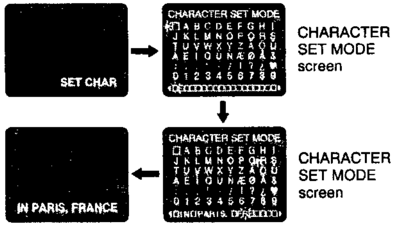
The viewfinder indications can also be displayed on the screen of a monitor connected to the camcorder.

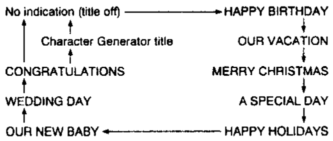
- Connect the camcorder to a video monitor. Press F2 until the viewfinder indications appear on the monitor screen.
- In the On-Screen Display mode, the date will be displayed and recorded.
- The on-screen display is not available during recording.

Notes and Advice

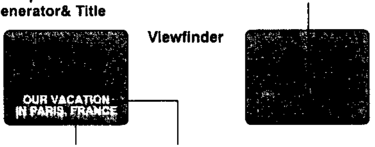
- The date/time/character display is available only after the date/time setting has been completed. (☞ P. 12)
- Setting PROGRAM AE to "LOCK" always engages the Auto Date record mode. (☞ P. 20) In this case, no other display modes are available.
- In Auto Date Record mode, the date indication is also recorded for approx. 5 seconds when the date changes while shooting. In this case, the first recording after that does not record the date indication at its beginning.




SET CHAR
CHARACTER SET MODE
CHARACTER SET MODE screen
IN PARIS, FRANCE
CHARACTER SET MODE
CHARACTER SET MODE screen


No indication (title off)
HAPPY BIRTHDAY
OUR VACATION
MERRY CHRISTMAS
A SPECIAL DAY
HAPPY HOLIDAYS
OUR NEW BABY
WEDDING DAY
CONGRATULATIONS
Character Generator title

Example of Character Generator& Title


Title indication
Viewfinder
OUR VACATION
IN PARIS, FRANCE

Character Generator: IN PARIS, FRANCE

Title: OUR VACATION

Character Generator

You can make your own title, store it in advance and superimpose it over the scene being shot.

How to store:

1. Press Function SEL. until "DISP." appears beside "F2".
2. Press F2 until "SET CHAR" or a title you have stored earlier appears in the viewfinder.
3. Press SET.
   — CHARACTER SET MODE screen will appear in the viewfinder.
4. Press –/+ to move the cursor, and then press SET to choose the desired characters.
5. Repeat step 4 to set all needed characters.
   — After all the desired characters have been entered, press SET as many times to exit the character set mode. The CHARACTER SET MODE screen will disappear, and the stored characters will be displayed.

INSTANT TITLES

The camcorder has eight pre-set Titles in memory. One of them can be superimposed above the Character Generator's stored title.

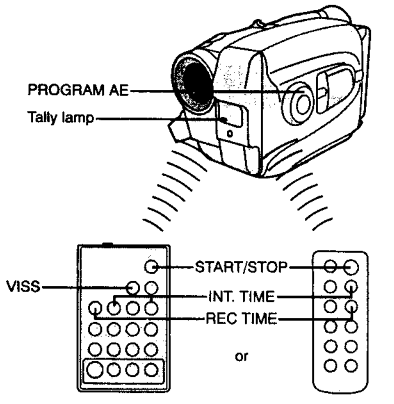
1. Press Function SEL. until "TITLE" appears beside "F1".
2. Press F1 while in the Record-Standby mode as many times as required until the desired Title is displayed. The Title changes in the sequence shown on the left.

- To delete the Instant Title during recording, press F1.
  — If the title is to be called back on the screen, put the camcorder into the Record-Standby mode first. Then press F1 to select the desired title.
- A personal title stored in the Character Generator can be displayed in the same position as the Instant Title.
  — The Instant Title's function can be used along with the Character Generator mode; consequently, a pair of identical stored titles can be superimposed.

Notes and Advice

- Up to 18 characters can be stored.
- Only one personally input title created with the Character Generator can be stored at a time. To replace it with another title, proceed as above again.
- To create a space between two characters in your own title, choose "☐" on the CHARACTER SET MODE screen in the process of title storing.
- The Instant Title cannot be displayed when PROGRAM AE is set to "LOCK". (☞ P. 20)

ADVANCED VIDEOGRAPHY TECHNIQUES (Cont'd)



RM-V706U
(provided with GR-AX900) or
RM-V700U
(optional)

RM-V705U
(provided with
GR-AX800)

MANUAL INDEX CODE MARKING

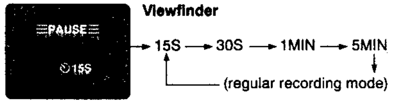
1. Press VISS once to put an index code onto the tape.
   — "INDEX" blinks during the marking process.

- If VISS has been pressed in the Record-Standby mode, an index code is put at the point where START/STOP is pressed.
- The VISS button is equipped on the RM-V706U and the RM-V700U.

SELF-TIMER

This Self-Timer function allows you to set the amount of time delay before recording starts after Start/Stop has been pressed. If the camcorder has been secured, the operator can enter the picture before actual recording begins.

1. Put the camcorder into the Record-Standby mode.
2. Press INT. TIME to select the interval time.
   — The following sequence of time setting is displayed with each press of INT. TIME:



3. Press START/STOP.
   - When the selected time has elapsed, recording begins automatically.
   - The tally lamp blinks, and its blinking speed becomes faster approx. 5 sec. before recording begins. Then when recording starts, the lamp lights normally to indicate recording is in progress.

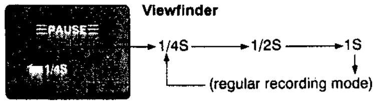
To release the Self-Timer mode:

When the tally lamp is not blinking:
Press INT. TIME continuously until "⏲" goes off.
When the tally lamp is blinking:
Press Start/Stop to stop the blinking, then press INT. TIME continuously until "⏲" goes off.

ANIMATION

The Animation function produces the illusion of movement in otherwise stationary scenes or objects. This technique is accomplished by shooting a series of slightly different pictures of the same scene or slightly different poses of the same object for a brief period of time.

1. Set SP/EP to "SP". (☞ P. 14)
2. Put the camcorder in the Record-Standby mode.
3. Press REC TIME to select the recording time.
   — The following sequence of time setting is displayed with each press of REC TIME:



4. Press START/STOP after focusing on the subject.
   - Recording stops automatically in the Record-Standby mode after the selected period of time.
5. Repeat steps 3 – 4 for the required number of pictures.
6. Playback the recorded series to check if results were satisfactory.

To release the Animation mode:

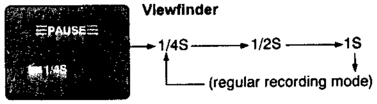
Press REC TIME until "🎥" in the viewfinder disappears.

- The Animation mode can only be engaged from the Record-Standby mode.

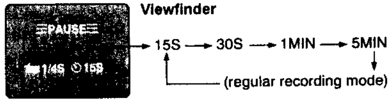
TIME-LAPSE

The Time-Lapse function allows automatic sequential on/off recording at preset time spans. With the camcorder continuously focused on a specific scene or object, the resulting recording will show subtle changes (such as shifts in cloud formations, plant growth etc.) over an extended period of time.

1. Set SP/EP to "SP". (☞ P. 14)
2. Put the camcorder into the Record-Standby mode.
3. Press REC TIME to select the recording time.
   — The following sequence of time settings is displayed with each press of REC TIME:



4. Press INT. TIME to select the interval time.
   — The following sequence of time settings is displayed with each press of INT. TIME:



5. Press START/STOP to start the Time-Lapse recording. The selected recording time and interval will alternate automatically.
   - The tally lamp functions in the same way as in Self-Timer shooting.

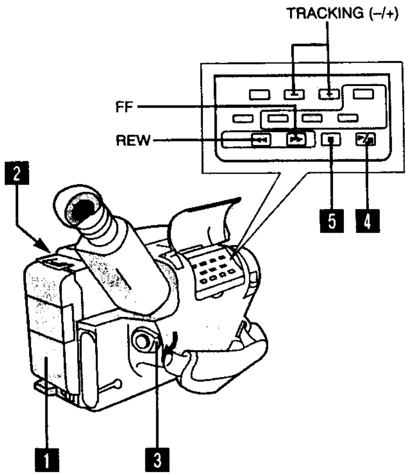
To release the Time-Lapse mode:

When the tally lamp is not blinking:
Press INT. TIME and REC TIME continuously until "🎥" and "⏲" go off.
When the tally lamp is blinking:
Press Start/Stop to stop the blinking, then press the INT. TIME and REC TIME continuously until "🎥" and "⏲" go off.

Notes and Advice

- Keep the camcorder steady in one position when filming the series of shots for best results. Mounting the camcorder on a tripod is recommended.
- Before recording in the Animation mode at the very beginning of a tape, set the camcorder to the Recording mode for about 5 seconds, so that the tape runs smoothly. Using the Fade-in function at this point is a good way to begin an animated program.
- Fade-in/out is not possible during Animation or Time-Lapse shooting.

PLAYBACK



The camcorder permits playback of recorded "VHS-C" video cassettes.
For connections refer to page 33.

PLAYBACK OPERATION

1. Preparations

1 Supply power. (Battery or AC operation: ☞ P. 9)

2 Insert a pre-recorded VHS-C cassette.
- Ensure that tape is not slack inside the cassette, then load the cassette correctly. ☞ P. 13.

2. To playback a cassette

3 Set the power switch to "PLAY".
— The power indicator lights.

4 Press PLAY/PAUSE.
— Playback starts and playback picture appears on the viewfinder screen and connected TV.

3. To stop playback

5 Press STOP.

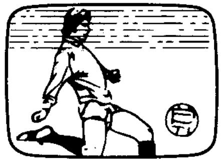
REWIND OR FAST-FORWARD THE TAPE

To rewind the tape:
When in the stop mode, press REW.
To fast-forward the tape:
When in the stop mode, press FF.

MANUAL TRACKING

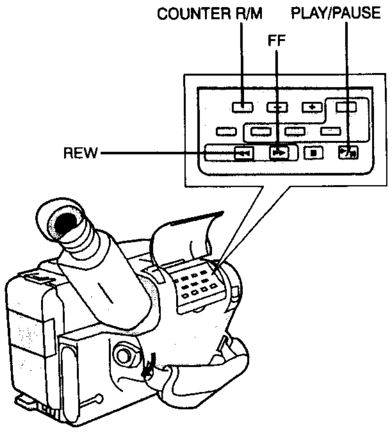
If noise bars appear on the screen, the tracking needs to be adjusted.

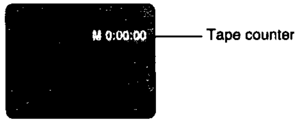
1 Press either TRACKING as many times to adjust to the best picture possible.
- To reset the tracking back to its standard preset, press both TRACKING (–/+) simultaneously.



Notes and Advice

- After about 5 minutes in Stop mode, the camcorder switches itself off automatically. (To turn on the camcorder again, set the power switch to "POWER OFF" first and then back to "PLAY".)
- The tracking adjustment may not be effective on tapes recorded on another VCR's or camcorders.





Viewfinder

STILL PLAYBACK

Press PLAY/PAUSE during playback.
- To resume normal playback, press PLAY/PAUSE again.

SHUTTLE SEARCH

Fast-speed forward playback:
Press FF during playback.
— Playback speed of the tape will be 3 times the normal speed in the SP mode, and 7 times in the EP mode.

Fast-speed reverse playback:
Press REW during playback.
— Reverse playback speed of the tape will be 3 times the normal speed in the SP mode, and 7 times in the EP mode.

COUNTER MEMORY FUNCTION

This camcorder incorporates a counter memory function which facilitates locating a specific tape segment.

1 Press COUNTER R/M for more than 2 seconds.
— Resets the counter to "0:00:00".

2 Press COUNTER R/M for less than 1 second.
— "M" appears.

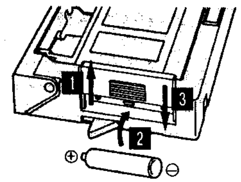
3 After recording or playback, press STOP, then REW.
— The tape will automatically stop at the counter reading of around "0:00:00".

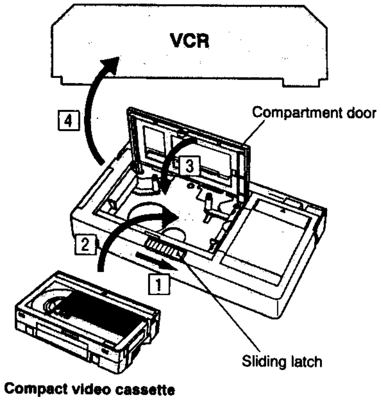
4 Press PLAY/PAUSE. — Playback starts.

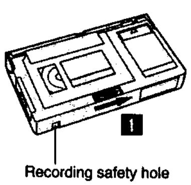
Notes and Advice

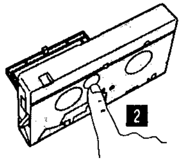
- For brief fast-speed searching, hold FF or REW for more than 2 seconds. When the button is released, the search ends and the tape will play.
- Noise bars will appear and pictures may become monochrome while in Still Playback or Shuttle Search. This is not due to any defect of the unit.
- To protect the tape and to conserve power, the camcorder will enter the stop mode and turn itself off after 5 minutes of still playback.
- The counter memory functions in the Fast-Forward and Rewind modes.
- To cancel the memory function, press COUNTER R/M so that the "M" disappears.

USING THE CASSETTE ADAPTER (VHS PLAYPAK)









By using the provided cassette adapter (VHS Playpak: C-P7U), a VHS video cassette recorded with this camcorder can be played back with any VHS video recorder. When the VHS-C video cassette is installed in the cassette adapter, it is fully compatible for both recording and playback on any VHS video recorder. The C-P7U cassette adapter is battery-powered and will automatically perform tape loading and unloading.

Inserting the battery into the cassette adapter

1. Remove the battery cover by sliding it up.
2. Install one "AA(R6)" size battery as shown.
3. Reattach the cover.

Playback on the VCR

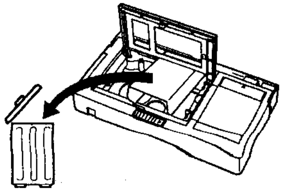
1. Open the compartment door by sliding the latch.
2. Insert the compact video cassette.
3. Close the compartment door. The tape is loaded.
4. Insert the cassette adapter into the VCR.
5. Playback the tape.

Removing the compact video cassette

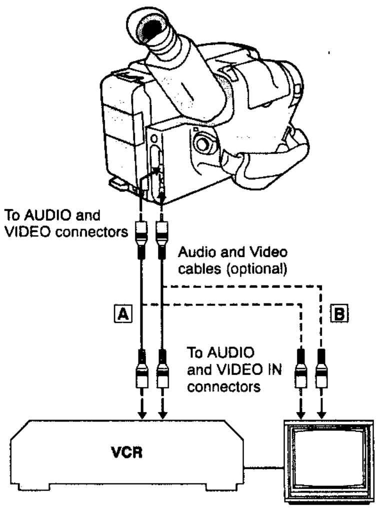
1. Slide the sliding latch.
   — The tape will be unloaded and the compartment door will open.
2. Insert your finger into the hole on the underside of the adapter, push the cassette up from below and remove it.

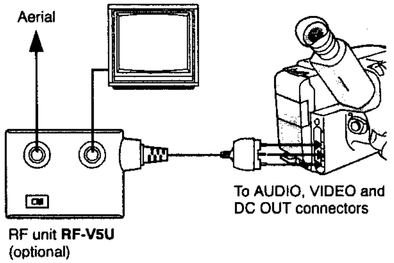
Notes and Advice

- Only compact video cassette tapes marked VHS-C can be used with the cassette adapter.
- During special-effect playback (slow motion, still frame, etc.), the picture may vibrate or noise bars may appear on the screen.
- When using the cassette adapter with a compact video cassette installed to record on a VCR, cover the recording safety hole using adhesive tape.
- Please remove paper before using the C-P7U.



CONNECTIONS


To AUDIO and VIDEO connectors
Audio and Video cables (optional)
A
B
To AUDIO and VIDEO IN connectors
VCR


Aerial
To AUDIO, VIDEO and DC OUT connectors
RF unit RF-V5U (optional)

Also refer to the instruction manual for your VCR or TV when connecting the camcorder to them.

Connection to a VCR [A]

In this situation, use the Audio and Video cable.

1. Connect the camcorder and the VCR as shown in the diagram on the left.
2. Turn on the camcorder, the VCR and TV.
3. Set the VCR to AUX(iliary) input mode.
4. Set the TV to the VIDEO mode or channel 3.
   - Please refer to the instruction manual of your VCR.

Connection to a television equipped with A/V input connector [B]

In this situation, use the Audio and Video cable.

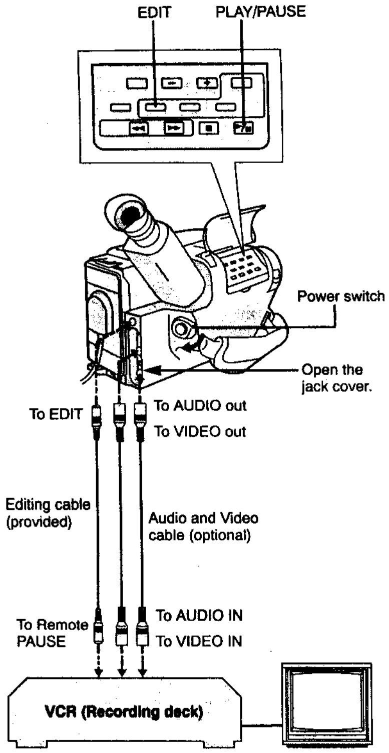
- Connect the AUDIO and VIDEO connectors of the camcorder to the A/V input connector of the television.
- Use the Video (or AV) mode specified in the TV's instruction manual. (instead of tuning to channel 3 or 4.)

Connection to a television not equipped with A/V input connector

In this situation, use the RF unit RF-V5U (optional). For connection and operation, please refer to the instruction manual for the RF-V5U.

Notes and Advice

- It is recommended to use the AC Power Adapter/Charger as the power supply rather than the battery pack.
- It is possible to monitor the picture and sound from the camcorder even when a cassette tape is not loaded. Set the power switch to "CAMERA". When you select the television input from your camcorder, the audio and video can be monitored.
- Some speakers and televisions are specially shielded to prevent television interference. If neither is shielded, do not place the speakers adjacent to the television, otherwise the video playback picture will have interference.



TAPE DUBBING

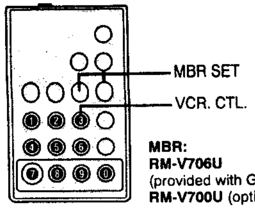
Preparations

- Connect the camcorder and the VCR as shown in the diagram on the left.
  —The editing cable is used to connect the camcorder and a JVC VCR with a Remote PAUSE terminal.★
  (If the VCR does not have a Remote PAUSE jack, you can use the R.A. EDIT jack if one is available. See additional notes on Dubbing using the editing cable below.)
- Set the power switch to "PLAY".
- Turn on the VCR.
- Correctly insert the appropriate cassettes into the camcorder and the VCR.

1. Engage the VCR's AUX(iliary) mode and Record-Pause mode.
2. Engage the camcorder's play mode to locate a position on the tape slightly before edit-in point. When this point is reached, press PAUSE to enter the still mode.
3. Press the camcorder's EDIT and set the VCR's recording mode to start editing.
   —The camcorder rolls back the tape a little before it starts playback.
4. When the tape reaches the edit-out point, put the VCR's Record-Pause mode and the camcorder's still mode.
   - Repeat steps 2 – 4.
   - Stop both the camcorder and the VCR when dubbing is finished.

Notes and Advice

- **★Dubbing using the editing cable to connect the camcorder and the JVC VCR with a Remote PAUSE terminal**
  —When the camcorder's EDIT is pressed at step 3, the VCR automatically starts recording. When the camcorder's PLAY/PAUSE is pressed, the VCR automatically enters the Record-Pause mode.
  —Reset the camcorder's counter in advance to "M0:00:00" at an edit-out point. When the tape reaches the point (counter reading of 0:00:00) during dubbing, the camcorder enters the Still mode and the VCR enters the Record-Pause mode automatically. This function is called "Master Edit Control System".
  - There are some VCRs which are not compatible with the Master Edit Control system.
  - When the tape reaches the preset edit-out point (M0:00:00)during the dubbing operation, it may stop slightly before or after the designated point on the tape.



MBR:
RM-V706U
(provided with GR-AX900) or
RM-V700U (optional)

VCR CODE LIST

VCR BRAND NAME	BUTTONS (A) (B)
GE	❶ ❶ ❾ ❷ ❾ ⓿ ❾ ❹
HITACHI	❻ ❻ ❻ ❸
JVC A B C	❾ ❶ ❾ ❻ ❾ ❸
MAGNAVOX	❾ ❺ ❶ ❶ ❼ ❶ ❼ ❻
MITSUBISHI	❻ ❼ ❻ ❽
NEC	❸ ❼ ❸ ❽
PHILIPS	❶ ❾ ❾ ❺ ❶ ❶ ❾ ❹ ❾ ❶ ❾ ❻ ❶ ❷ ❸ ❸
PANASONIC	❶ ❸ ❶ ❼ ❶ ❶ ❾ ❹ ❶ ❽
RCA	❾ ❷ ❾ ❹ ❻ ❻ ❻ ❸ ❾ ⓿
SANYO	❸ ❻ ❸ ❺
SHARP	❶ ❺ ❶ ⓿
SONY	❻ ❺ ❻ ⓿ ❸ ❾ ❸ ❶
TOSHIBA	❻ ❾ ❻ ❶
ZENITH	❶ ❻

RANDOM ASSEMBLE EDITING (R.A.Edit)

This function makes it easier to create edited videos when your camcorder is used as the source player in combination with your VCR. You can pre-select up to 8 scenes or "cuts" for automatic editing in the sequence you have specified. Random Assemble Editing can be more conveniently done if the MBR (Multi Brand Remote) has been set to correspond to the brand of your VCR.

[1] **How to set the remote control unit to correspond to the brand of your VCR:**
Turn the VCR's power off before starting.

1. Point the remote control toward the VCR's infrared beam sensor window.
2. Refer to the list on the left, and while pressing MBR SET, press button (A), then press button (B).
3. Release MBR SET.
   - The code is set and the VCR's power automatically comes on.
     If your VCR's power does not come on, try another code from the table on the left.
     (With some VCR brands, power won't come on automatically. In this case, turn the VCR power on manually and check to see if the remote control buttons work with the VCR.)

[2] **How to operate the VCR:**

1. Turn the VCR's power ON.
2. Press the button on the remote control unit corresponding to the function you want to operate while pressing VCR CTL.

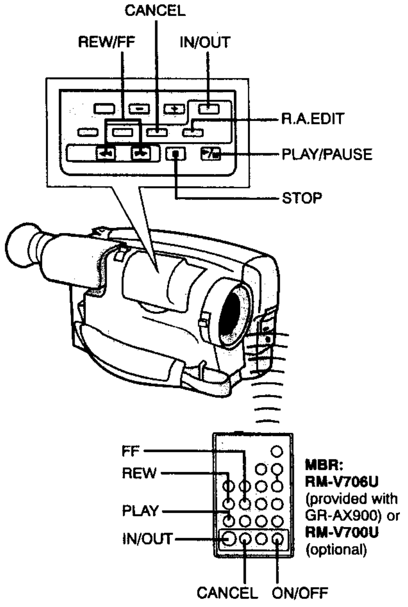
(Continued on next page.)

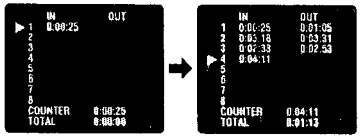
Notes and Advice

- Since the remote control unit has a number of operation codes, determine the appropriate code for operating your VCR by confirming correct VCR operations according to the steps above.
- The VCR functions that the MBR can control are PLAY, STOP, PAUSE, FF, REW and VCR REC STBY. Among them, VCR REC STBY button doesn't need to be pressed along with VCR CTL.
- If the MBR is not able to control the VCR, use the controls on the VCR.

IMPORTANT

- Although the MBR (Multi-Brand Remote Control) is compatible with JVC VCRs, as well as many VCR models manufactured by others, it is possible that this remote control will not work with your VCR or may offer limited functions.


CANCEL
REW/FF
IN/OUT
R.A.EDIT
PLAY/PAUSE
STOP
FF
REW
PLAY
IN/OUT
MBR:
RM-V706U
(provided with GR-AX900) or
RM-V700U
(optional)
CANCEL
ON/OFF



```
   IN        OUT
▶1 0:00:25
 2
 3
 4
 5
 6
 7
 8
 COUNTER   0:00:25
 TOTAL     0:00:00
```

```
   IN        OUT
 1 0:00:25   0:01:05
 2 0:03:18   0:03:31
 3 0:02:33   0:02:53
▶4 0:04:11
 5
 6
 7
 8
 COUNTER   0:04:11
 TOTAL     0:01:13
```

Preparations

- Connect the camcorder and the recording deck as per the diagram on the right (P. 37).

🄰: If the recording deck is a JVC VCR that has a Remote PAUSE terminal, connect the Editing cable to it. (If the VCR does not have a Remote PAUSE terminal, connect to the R.A.EDIT connector.)

🄱: If the VCR has neither a Remote PAUSE nor an R.A.EDIT connector, connect the Editing cable to the MBR's Pause-In jack.

- Camcorder: Correctly insert a recorded tape and set the power switch to "PLAY".
- VCR: Turn power on. Insert a recordable tape, and set to the AUX (iliary) mode. Refer to VCR's manual for details.

To select up to 8 scenes

1 Press PLAY/PAUSE.

2 Press R. A. EDIT.
  - The R. A. Edit counter display will appear in the viewfinder and on the TV screen.

3 Use FF or REW to search for the beginning of a scene you want, press IN/OUT.
  - The in-point's counter reading is registered on the display.

4 Use FF or REW to search for the end of the scene you want, press IN/OUT again.
  - The out-point's counter reading is registered on the display.
  - The "TOTAL" reading shows the total running time of the edited scenes.

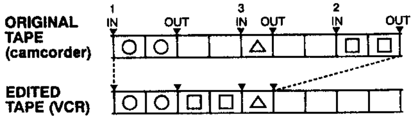
5 Specify additional scenes by repeating steps 3 - 4.

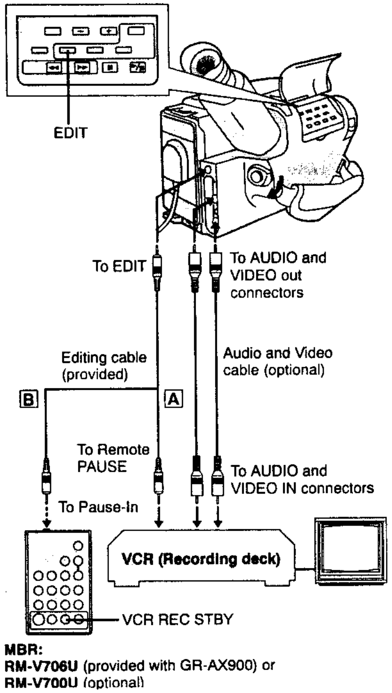
The MBR can also be used for the following:
- ON/OFF functions same as R.A.EDIT of the camcorder
- IN/OUT functions same as IN/OUT of the camcorder
- CANCEL functions same as CANCEL of the camcorder

Notes and Advice

- For any scene, the out-point must have a counter reading that is at least 1 second after the in-point. An out-point with a counter reading less than or the same as the in-point will not be registered.
- Since the camcorder prerolls during R.A. Edit, there must be at least 15 seconds worth of recording material prior to any in-point on the playback tape.
- Blank portions of tape cannot be registered as in- or out-points.
- If the search time for an in-point exceeds 5 minutes, the recording deck's Record-Pause mode will be cancelled and editing will not take place.
- Pressing the R.A. EDIT (ON/OFF) button will clear all in- and out-points from memory.
- When editing, a slight discrepancy between the counter reading and actual in- and out-points may occur. Please position your in- and out-points with enough leeway so that segments will be recorded in their entirety (not cut off).

(Continued on next page.)


ORIGINAL TAPE (camcorder)
1
IN
OUT
3
IN
OUT
2
IN
OUT
EDITED TAPE (VCR)


EDIT
To EDIT
To AUDIO and VIDEO out connectors
Editing cable (provided)
Audio and Video cable (optional)
B
A
To Remote PAUSE
To AUDIO and VIDEO IN connectors
To Pause-In
VCR (Recording deck)
VCR REC STBY
MBR:
RM-V706U (provided with GR-AX900) or
RM-V700U (optional)

To make corrections

During steps 3 and 4 on the previous page, pressing CANCEL will erase the last in- or out-point. Pressing again will erase the point before that, and so on.

For automatic editing [illegible] VCR

1 Put the VCR in the Record-Pause mode.
  MBR can also be used.
  - Point the remote control toward the VCR's infrared sensor window and press VCR REC STBY.
  - Be sure that the VCR enters the Record-Pause mode. If not, use the controls on the VCR to enter the Record-Pause mode.

  Note:
  With some manufacturer's VCR's, pressing VCR REC STBY may not place the VCR into the Record-Pause mode.

2 Press the camcorder's EDIT.
  - The function begins automatic editing; all the scenes are copied to the VCR in the specified order.
  - Keep the remote control pointed toward the VCR's remote sensor window. (in case of 🄱)
  - The on-screen display remains superimposed while the camcorder searches for each scene (the blinking cursor points to the scene number presently being searched), and is not displayed while the scenes are being edited.
  - When R. A. Edit is finished, the camcorder enters the Still mode and the VCR enters the Record-Pause mode. Press STOP on both units to end R. A. Edit.

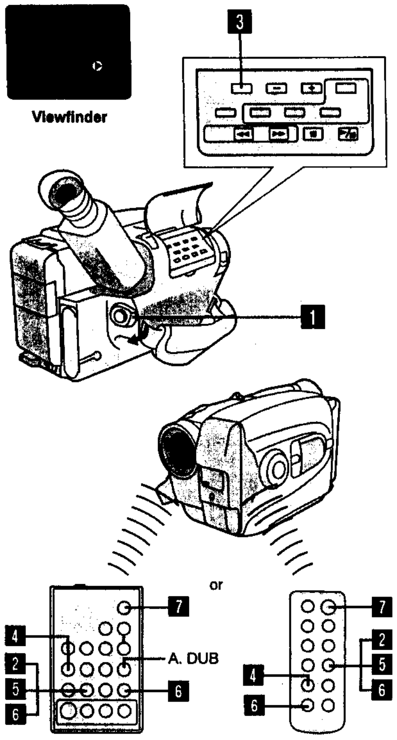
To dub the entire tape without any edits

To make a duplicate copy of the camcorder's tape, perform R. A. Edit by specifying only one in-point (and no out-point). R. A. Edit will automatically dub everything from that in-point to the end of the tape.

Notes and Advice

- With some VCR models, there may be noise at the in- or out-points on the edited tape.

EDITING TECHNIQUES (Cont'd)



RM-V706U
(provided with GR-AX900) or
RM-V700U
(optional)

RM-V705U
(provided with
GR-AX800)

INSERT EDITING

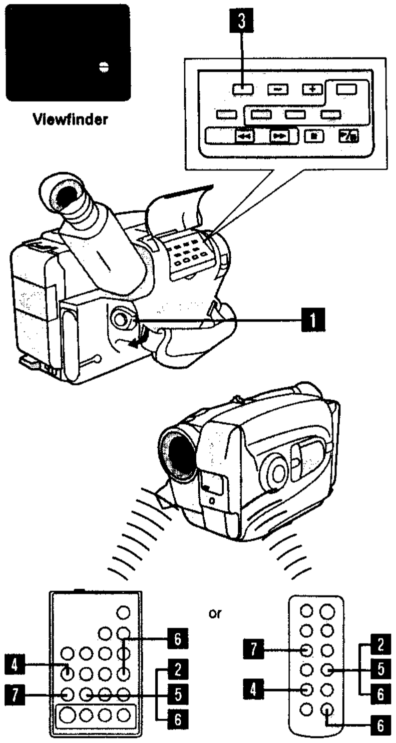
Insert Editing means recording a new scene into a section of prerecorded tape so that a part of the original recording can be replaced with a new sequence without excessive picture distortion at the edit-in and edit-out points. In the Insert Editing mode, the original audio on the audio track remains unchanged.

1. Set the power switch to "PLAY".
2. Locate the desired edit-out point on the tape and press PAUSE.
3. Press COUNTER R/M for more than 2 seconds to reset the tape counter, then press it once again for less than 1 second to make "M" appear in the viewfinder.
4. Press REW to rewind the tape a little beyond the beginning of the scene you wish to insert.
5. Press PAUSE exactly at the beginning of the scene to insert.
6. While holding INSERT pressed, press PAUSE.
   —The camcorder enters the Insert Editing mode with the scene at which the camcorder is aimed appearing on the screen for monitoring.
7. Press START/STOP to insert the new sequence.

- When the counter reading of "0:00:00" is reached, Insert Editing stops automatically and the camcorder enters the Playback mode.

Notes and Advice

- **If the tape has a blank segment or a point where the recording mode (SP/EP) has been switched, Insert Editing may not function properly.**
- **When in the Still mode, the counter indication may be blurred. This is normal.**
- **When the tape reaches the preset edit-out point during the editing operation, it may stop slightly before or after the designated point on the tape. Also, at that time, noise bars may appear momentarily. Neither of these is a defect of the unit.**
- **Only video signal is recorded in the Insert Editing mode. When the sound is to be recorded, press A. DUB and PAUSE simultaneously in the Insert Pause mode. When INSERT and PAUSE are pressed simultaneously again, the unit re-enters the Video-signal-only Recording mode.**
- **Tapes with their safety tabs removed cannot be Insert-Edited. Reseal the safety tab slot to perform the dubbing.**
- **If whistling or howling is heard during Insert Editing, reduce the TV volume or move the mike farther away from the TV.**



RM-V706U
(provided with GR-AX900) or
RM-V700U
(optional)

RM-V705U
(provided with
GR-AX800)

AUDIO DUBBING

Audio Dubbing means recording a new soundtrack on a pre-recorded tape, i.e., replacing the original sound with new audio material.

Audio Dubbing is applicable only to the longtudial audio track (normal audio).

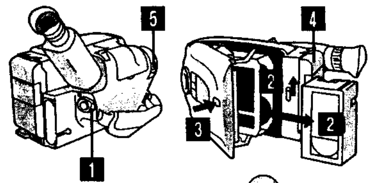
1. Set the power switch to "PLAY".
2. Locate the desired edit-out point on the tape and press PAUSE.
3. Press COUNTER R/M for more than 2 seconds to reset the tape counter, then press it once again for less than 1 second to make "M" appear in the viewfinder.
4. Press REW to rewind the tape a little beyond the beginning of the scene you wish to dub audio.
5. Press PAUSE exactly at the beginning of the scene.
6. While pressing A.DUB, press PAUSE to enter the Audio Dub Standby mode.
7. Press PLAY. — Audio Dubbing begins.

- When the counter reading of "0:00:00" is reached, Audio Dubbing stops automatically and the camcorder enters the Playback mode.

Notes and Advice

- If the tape has a blank segment or a point where the recording mode (SP/EP) has been switched, Audio Dubbing may not function properly.
- Tapes with their safety tabs removed cannot be Audio-Dubbed. Reseal the safety tab slot to perform the dubbing.
- If whistling or howling is heard during audio dubbing, reduce the TV volume or move the mike farther away from the TV.
- If the camcorder is connected to the TV, noise may appear on the screen during the Audio Dubbing procedure. This phenomenon is not recorded on the tape.

AFTER USE



1 Set the power switch to "POWER OFF" to turn power off.
2 Slide EJECT to open the cassette holder, then remove the cassette.
3 Close and lock the cassette holder by pressing PUSH.
4 Press BATT. RELEASE to remove the battery pack.
5 Slide the LENS COVER open/close switch to close the lens cover.

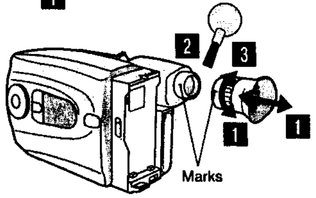
HOW TO CLEAN THE CAMCORDER

When the camcorder's exterior is dusty, clean by gently wiping with a soft cloth.

HOW TO CLEAN THE LENS

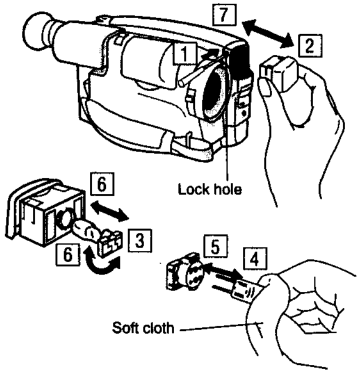
When the lens is dirty or dusty, blow it with a blower brush and then gently wipe with lens cleaning paper.

HOW TO CLEAN THE VIEWFINDER



The viewfinder eyepiece can be removed for cleaning.
1 Turn the eyepiece counterclockwise and pull it out.
2 Remove dust with a blower brush.
3 Align the marks, reattach the eyepiece and turn it clockwise.

HOW TO REPLACE THE VIDEO LIGHT BULB



It is recommended to consult your nearest JVC dealer for replacing the bulb. However, if you wish to do it yourself, proceed as follows:
1 Insert a flat and narrow object into the lock hole.
2 Pull out the video light unit.
3 Turn the bulb unit counterclockwise to remove it.
4 Pull out the bulb.
5 Insert a new bulb. At this time it is important to hold the bulb using a soft cloth. Do not touch the bulb directly.
6 Replace the bulb unit.
7 Reattach the video light unit.

Notes and Advice

- **Avoid using of strong cleaning agents such as benzine or alcohol as they may damage the exterior.**
- **The video light unit and the bulb are very hot immediately after the power is turned off. Bulb replacement should be performed after it has cooled. (It will take approx. 30 minutes to cool sufficiently.)**
- **Do not touch the bulb directly. If it is becomes dirty, smoke or reduced service life may result. When accidentally touched by your fingers, wipe it with a soft cloth.**
- **Give the part number YQ20645-001 when ordering a video light bulb.**
- ***Use the exclusive halogen bulb which is available at your nearest JVC dealer.***

HELPFUL TERMS AND INFORMATION

The following glossary is for your convenience in helping you better understand your camcorder and its operation.

Animation: (☞ P. 29)
By shooting the same inanimate subject repeatedly with slight variations each time, the illusion of motion can be created.

Audio dubbing: (☞ P. 39)
Allows you to replace only the linear audio portion in a previously recorded scene (for adding narration, etc.).

Auto Gain Control: (☞ P. 20)
Automatically increases camera sensitivity when the illumination falls below a certain level.

Auto Pause System: (☞ P. 17)
Prevents shooting unnecessary scenes by mistake when the camcorder is pointed straight down (i.e., the ground, feet).

AUX mode: (☞ P. 33, 34, 36)
Refers to Auxiliary mode. When the camcorder is connected to a VCR for editing or dubbing, the VCR should be set to this mode.

AV:
Short for Audio/Video. Often refers to the audio (sound) and video (picture) signals which, when combined, make up a program.

CCD (Charge Coupled Device):
Solid-state imaging device used in camcorders as the camera's image pickup; analogous to the eye's retina except that picture information is output as electric signals.

Cinema mode: (☞ P. 23)
"Letterboxes" live recordings (blacks out the top and bottom of the screen) to give scenes recorded on a camcorder a "wide screen" effect.

Color temperature:
A measurement in Kelvin degrees which indicates the color contents of a light source; bluish light has a higher color temperature than reddish light. To reproduce white as white under different types of lighting, the chrominance signal must be adjusted to match the light source's color temperature. (See "White balance".)

Head:
An electronic component which "writes" or "reads" video and audio signals on the tape.

HQ (High Quality):
An enhancement feature in the VCR circuitry which provides greater picture detail.

Lithium battery: (☞ P. 8, 12)
Necessary for camcorder's clock and date/time/character settings, and for use of the RM-V700U/RM-V705U/RM-V706U Remote Control Unit. Use only CR2025.

Master Edit Control: (☞ P. 34)
Lets a camcorder control the starting and stopping of a VCR during editing for accurate, synchronized editing at the touch of a single button.

On-screen display: (☞ P. 26)
The viewfinder indications can also be displayed on the screen of a monitor or TV that's connected to the camcorder.

Program AE with Special Effects: (☞ P. 20)
A variety of creative shooting effects are accessible.

Quick review: (☞ P. 17)
Permits reviewing of the final part of the last recorded segment in the Record-Standby mode.

R.A.Edit (Random Assemble Editing): (☞ P. 35)
This feature lets you pre-select up to 8 scenes to be automatically rearranged and edited to a connected VCR.

Refresh: (☞ P. 10)
A feature on the AC power adapter that lets you completely discharge the power from the battery pack before charging again. Contributes to longer battery life.

Retake: (☞ P. 17)
Permits forward or reverse search in the Record-Pause mode for easy re-recording.

Self-timer: (☞ P. 20, 28)
Enables a camcorder to automatically start recording after a selected delay time so the operator can enter the picture before actual recording begins.

Time-lapse: (☞ P. 29)
Permits automatic on/off sequential recording at preset intervals. Used to capture changes over long periods of time.

Tracking: (☞ P. 30)
A mechanism enabling the tracking position to be adjusted during playback so that the heads can accurately pick up the recorded signal in the best condition.

Tally lamp: (☞ P. 16, 28)
Lights to show that recording is in progress.

VCR: (☞ P. 33, 34, 36)
Short for Video Cassette Recorder.

White balance: (☞ P. 22)
A term that refers to the correctness of color reproduction under various lighting. If the white balance is correct, all other colors will also be accurately reproduced.

CAUTIONS

For safety, strictly observe the following instructions.

- Do not open the camcorder's chassis.
- Prevent inflammables, water and metallic objects from entering the unit.
- Do not disassemble or modify the unit.
- Do not use the unit when there is lightning in the vicinity. Disconnect the power cable of connected equipment.
- Do not short-circuit the terminals of the battery packs. When carrying a battery pack, keep it away from metallic objects (key holder, necklace, etc.) by putting it in a vinyl bag, etc. This can prevent accidents.

Avoid using the unit under the following conditions:

- Places subject to excessive humidity or dust.
- Near appliances generating strong magnetic or electric fields (speakers, broadcasting antennas, etc.).
- Places subject to soot or steam such as near a cooking stove.
- Places subject to excessive shock or vibration.
- Near a television set (rolling pictures or howling might result).
- Extremely hot places.

Do not expose the unit to high temperatures over 40°C (104°F) for long periods.

If the unit should be subjected to direct sunlight, or left in a closed car in summer, or placed near a heater, the CCD and the auto-focus sensor may deteriorate and the cabinet may become deformed. Furthermore, this also may cause the transistors and other electronic and mechanical parts to malfunction. Remember the following:

- Do not leave the unit in places of over 50°C (122°F).
- Do not use the unit in places of over 40°C (104°F).
- Do not use the unit in places of below 0°C (32°F).
- Protect the unit from excessively dry or humid conditions (below 35% or above 80% humidity).
- For long storage, select a place between –20°C (–4°F) and 30°C (86°F).

Be careful when using the video light.

- The video light becomes extremely hot. Do not touch it either while in operation or soon after turning it off, otherwise serious injury may result.
- Do not place the camcorder into the carrying case immediately after using the video light, since it remains extremely hot.
- When operating, keep a distance of about 30 cm (1 ft.) between the video light and people or object.
- Do not use near flammable or explosive materials.

Take special care for protection of the unit.

- Do not allow the unit to become wet.
- Do not leave the unit in closed cars on hot summer days.
- Take special care not to drop the unit or strike it against hard objects. Protect from shocks during transportation.

Make it a rule to observe the following instructions.

- Do not remove the battery pack or disconnect other power supply units while the power is on. If not observed, this will cause tape damage and missoperation.
- When the unit is not in use, remove the battery pack.

Keep the lens and viewfinder eyepiece always clean.

- When the lens is dirty or dusty, blow it off first and then gently wipe with a soft brush or lens cleaning paper.
- Mold may form if the lens is left dirty.

Be careful not to damage the CCD.

- Do not keep the lens directed at extremely bright objects such as the sun or other light sources for long periods. Although the CCD is less susceptible to such burn than a tube would be, caution should be exercised when using this unit. Most importantly, the lens should be capped except while actually shooting.
- Do not direct the eyepiece of the viewfinder at the sun.

Handle the unit carefully.

- Protect the microphone from excessive shocks.
- Do not carry the unit by holding it only by the viewfinder.
- Avoid undue strain on the camcorder's shoulder strap, such as unnecessarily swinging the camcorder.

Moisture condensation.

- You have observed that pouring a cold liquid into a glass will cause drops of water to form on the glass's outer surface. This same phenomenon occurs on the head drum of a camcorder when it is moved from a cool place to a warm place, after heating a cold room, under extremely humid conditions or in a place directly subjected to the cool air from an air conditioner.
- Moisture on the head drum can cause severe damage to the video tape, and can lead to internal damage to the camcorder itself.
- If moisture condensation occurs on the head drum, a condensation warning appears in the viewfinder and the unit enters the Stop mode, unable to function. In such a case, turn off the unit, and leave it for a few hours. Then set the power switch to "CAMERA" or "PLAY". A few minutes later, the warning should disappear.

Maintenance

- When the cabinet is dusty, clean by gently wiping with a soft cloth.
- Avoid the use of strong cleaning agents such as benzine or alcohol as they may damage the cabinet.
- Cleaning should be done only after the battery pack has been removed or other power units have been disconnected.

Serious malfunctioning

If malfunctioning occurs, stop using the unit immediately and consult your local JVC dealer.

General Battery Precautions

- When the RM-V20U/C-P6U/C-P7U is not functioning even when correctly operated, the batteries are exhausted. Replace them with fresh batteries.
- Use only following batteries in the unit.
  RM-V20U ....AAA (R03) size
  C-P6U/C-P7U ....AA (R6) size

Please make note of the following rules for battery use. When misused, batteries can leak or explode.

1. Insert the batteries correctly according to the diagram inside the battery section.
2. Do not use old and new batteries together.
3. Do not use two different kinds of batteries. Although sizes may be the same, voltages may differ.
4. Do not expose batteries to excessive heat as they can leak, or explode. Do not dispose of batteries in a fire.
5. Remove batteries from the unit if it is to be stored for an extended period to avoid battery leakage which can cause malfunctions.

IN CASE OF DIFFICULTY

What may initially appear to be trouble is not always a real problem. Make sure first.....

Symptoms	Check points
Power	
No power is supplied.	■ Is the battery pack correctly installed? ☞ P. 9. ■ Is the battery pack charged? ☞ P. 10. ■ Is the power supply unit correctly connected? ☞ P. 9.
Recording	
Recording is impossible.	■ Check to see if the cassette safety tab is in place. ☞ P. 13.
Recording does not start.	■ Have you set the power switch to "CAMERA" first? ☞ P. 16.
Playback	
Tape is running, but no playback picture appears.	■ Is the TV receiver set to your video channel? ■ If A/V connection is used, is the TV's VIDEO/TV switch set to VIDEO? ■ Is the RF unit set to the correct channel?
Noise bars appear in the playback picture.	■ Use TRACKING to reduce noise bars. ☞ P. 30.
Playback picture is blurred or interrupted.	■ Video heads may be dirty or worn out. For head cleaning or replacement, consult the nearest JVC Service Dealer.
Tape transport	
Tape stops during fast forward or rewind.	■ Is the "M" indication visible in the viewfinder? If so, press COUNTER R/M to cancel the memory function. ☞ P. 31.
Rewinding or fast forwarding is impossible.	■ Check to see if the tape has already been fully wound on one reel or the other.
Other	
Some functions are not available.	■ The Intelligent Function Control (☞ P. 23) and MWB (☞ P. 22) are unavailable when the PROGRAM AE select dial is set to "LOCK".
Vertical white lines appear when shooting a very bright object.	■ This may occur when the background contrasts very much with the object. This is normal.
Crystal-shaped bright spots appear in the viewfinder.	■ Is the sun located in front or off to a slight angle from the front of the lens? Avoid letting sunlight directly into the lens by changing the camcorder's position, zooming in or out slightly, shading the lens with your hand, etc.
Picture is blurred in the Quick Review or Retake mode.	■ Is SP/EP properly set? ☞ P. 14.
Error number (E01, etc.) appears in the viewfinder.	■ Consult your nearest JVC Service dealer.

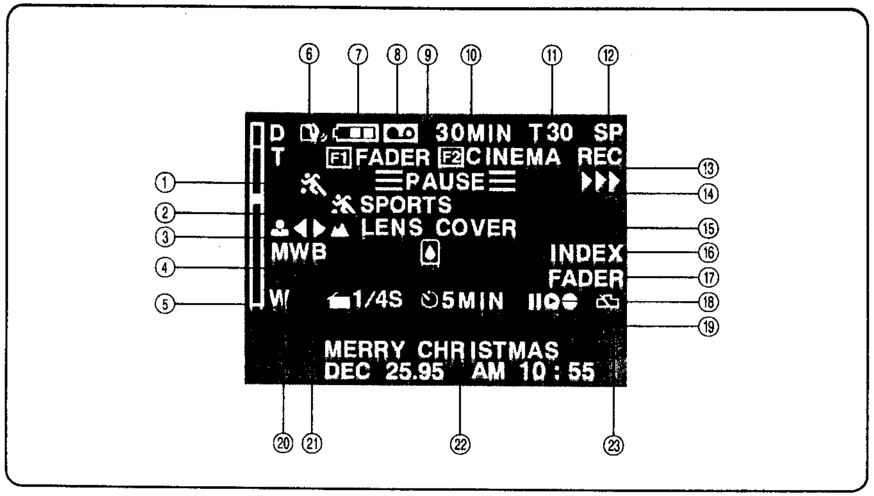
The camcorder is a microcomputer-controlled device. External noise and interference (from a TV, a radio, etc.) might prevent it from functioning properly. In such cases, first disconnect its power supply unit (battery pack, AC Power Adapter/Battery Charger, etc.) and clock battery; and then reconnect it and proceed as usual from the beginning.

Special note on head cleaning

Accumulation of dirt and other particles on the video heads may cause the playback picture to become blurred or interrupted. Although this camcorder is equipped with a built-in head cleaner which automatically cleans the heads, reducing the likelihood of dirty heads, if such troubles are encountered, please consult your nearest JVC dealer.

- A built-in head cleaner automatically cleans the video heads and head drum whenever a cassette is loaded and unloaded to reduce head clogging.

VIEWFINDER INDICATIONS



①, ② **PROGRAM AE indicator (☞ P. 20)**
Displayed at ② for approx. 3 seconds when the PROGRAM AE select dial is switched from one position to another. Then only the indicator remains at ①.

③ **Focus indicator (☞ P. 24, 25)**

④ **White balance mode indicator (☞ P. 22)**

⑤ **Zoom level indicator (☞ P. 18) / Exposure indicator bar (☞ P. 25)**

⑥ **Digital Image Stabilizer indicator (☞ P. 18)**

⑦ **Remaining battery power indicator**
Changes as follows according to the remaining power level: ▮▮▮→▭▮▮→▭▮→▭
When the battery power is coming to an end, a battery indicator (▭) blinks in the viewfinder. After indication blinks, the power turns off automatically. Replace the battery pack with a fully charged one. (☞ P. 9, 10)

⑧ **Cassette warning**
Blinks to warn that no cassette without safety tab is loaded.

⑨ **Intelligent function control indicator (☞ P. 23 – 27)**

⑩ **Remaining tape time (☞ P. 14)**

⑪ **Tape length indicator (☞ P. 14)**

⑫ **SP/EP Recording mode indicator (☞ P. 14)**

⑬ **Recording indicator (☞ P. 16)**

⑭ **Recording-Standby indicator:**
≡PAUSE≡ (☞ P. 16)
Auto Pause indicator:
AUTO PAUSE (☞ P. 17)

⑮ **Lens cover warning**
Blinks for approx. 5 seconds, whether the lens cover is open or closed, everytime the unit is turned on. Lets the user check to see if the cover is open.

⑯ **Index Code Marking (☞ P. 18)**

⑰ **Fade-Standby indicator (☞ P. 23)**

⑱ **Clock battery warning**
Blinks when the clock (lithium) battery is not in place or exhausted. In this condition, no date/time function is available. (For inserting or replacing the clock battery, ☞ P. 12)

⑲ **Insert Editing/Audio Dubbing indicators (☞ P. 38, 39)**

⑳ **Condensation warning**
Blinks when moisture condensation occurs on the head drum. While the indication is in the viewfinder, the unit's functions come to a halt. Turn off the unit and leave it for a few hours. Then turn on the unit. A few minutes later, the warning should disappear.

㉑ **Instant title (☞ P. 27)**

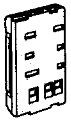
㉒ **Date/Time/Character (☞ P. 26, 27)**

㉓ **Interval time/Recording time indicator**
For Self-Timer, Animation and Time-Lapse functions (☞ P. 21, 28, 29)

SYSTEMS FLEXIBILITY

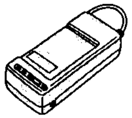
For maximum enjoyment, make the most of the provided or optional accessories depending on the situation.

- **Battery pack**
  BN-V12U
  BN-V22U
  BN-V60U
  BN-V25U



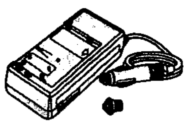
*Recording time ☞ P. 9

- **AC Power Adapter/Battery Charger AA-V11U**
  Charges or discharges battery pack or powers the camcorder via household AC current. (Can be used with 110 V to 240 V.)



*Charging time ☞ P. 10

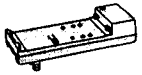
- **Car battery charger BH-V3U**
  Charges battery pack or powers the camcorder via a car battery. (Use with 12 V or 24 V nagative grounded cars only.)



*Charging time

BN-V12U	Approx. 50 min.
BN-V22U	Approx. 90 min.
BN-V25U	Approx. 120 min.
BN-V60U	Approx. 90 min.

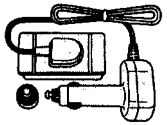
- **Battery charger BH-VC10U**
  Use to charge the battery pack.



*Charging time

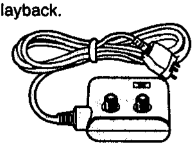
BN-V12U	Approx. 7 hours
BN-V22U	Approx. 13 hours
BN-V25U	Approx. 17 hours
BN-V60U	Approx. 13 hours

- **Car battery cord AP-V7U**
  Power the camcorder via a car battery. (Use with 12 V negative grounded cars only.)



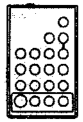
*Cable length: 2 m (6.6 ft.)

- **RF unit RF-V5U**
  Use to connect the camcorder to a regular television for playback.

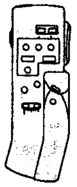


*Cable length: 1.5 m (5 ft.)

- **Wireless remote control unit RM-V700U**

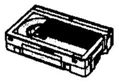


- **Wired remote control unit RM-V20U**
  Controls the camcorder's functions (POWER ON/OFF, REW, FF, STOP, PLAY, PAUSE, INSERT, AUDIO DUB, REC TIME, INTERVAL, VISS, START/STOP, ZOOM T/W) from a distance, and from any direction.

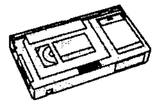


*Cable length: 3 m (9.9 ft.)

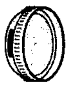
- **Compact VHS (VHS-C) cassettes TC-40/30/20**
  Allows 40/30/20 minutes of VHS recording and playback respectively.



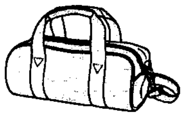
- **Cassette adapter (VHS Playpak) C-P6U/C-P7U**
  Enables the VHS-C cassette to be used with regular VHS machines.



- **Conversion lens kit GL-V10U**
  Offers telephoto (1.4x) and wide-angle (0.6x) conversion.



- **Active carrying bag CB-V7U**



*Dimensions (WxHxD):
340 x 170 x 155 mm
(13-7/16" x 6-3/4" x 6-1/8")

Some accessories are not available in some areas. Please consult your nearest JVC dealer before purchasing optional accessories.

FOR SERVICING

HOW TO LOCATE YOUR JVC SERVICE CENTER

TOLL FREE: 1-800-252-5722

Dear customer:

In order to receive the most satisfaction from your purchase, read the instruction booklet before operating the unit. In the event that repair is necessary, or for the address nearest your location, please refer to the factory service center list below or within the Continental United States, call 1-800-252-5722 for your authorized servicer. Remember to retain your Bill of Sale for Warranty Service.

— JVC

JVC SERVICE & ENGINEERING COMPANY OF AMERICA
DIVISION OF US JVC CORP.

FACTORY SERVICE CENTER LOCATIONS

107 Little Falls Road
Fairfield, NJ 07004-2105
(201) 808-9279

1500 Lakes Parkway
Lawrenceville, GA 30243-5357
(404) 339-2522

705 Enterprise Street
Aurora, IL 60504-8149
(708) 851-7855

5665 Corporate Avenue
Cypress, CA 90630-0024
(714) 229-8011

10700 Hammerly, Suite 110
Houston, TX 77043
(713) 935-9331

2969 Mapunapuna Place
Honolulu, HI 96819-2040
(808) 833-5828

230 Eliot Street
Ashland, MA 01721-2377
(508) 881-5923

14505 Commerce Way
Miami Lakes, FL 33016-1512
(305) 362-6252

890 Dubuque Avenue
South San Francisco, CA 94080-1804
(415) 871-2666

Sophisticated electronic products may require occasional service. Just as quality is a keyword in the engineering and production of the wide array of JVC products, service is the key to maintaining the high level performance for which JVC is world famous. The JVC service and engineering organization stands behind our products.

NATIONAL HEADQUARTERS
JVC SERVICE & ENGINEERING COMPANY OF AMERICA
DIVISION OF US JVC CORP.
107 Little Falls Road
Fairfield, NJ 07004-2105

If you ship the product...

Pack your JVC unit in the original carton or one of equivalent size and strength. Enclose, with the unit, a letter stating the problem or symptom that exists and also a copy of the receipt or bill of sale you received when you purchased your JVC unit. Print your home return address on the outside and the inside of the carton. Send to the appropriate JVC Factory Service Center as listed above.

Don't service it yourself.

CAUTION

To prevent electrical shock, do not open the cabinet. No user serviceable parts inside.
Refer servicing to qualified service personnel.

ACCESSORIES

To purchase accessories for your JVC product, you may contact your local JVC Dealer. Or from the 48 Continental United States call toll free: 1-800-882-2345.

SECTION 1
DISASSEMBLY

1.1 SERVICE CAUTIONS

1.1.1 Precautions

1. Before disassembling/re-assembling the set as well as soldering parts, make sure to disconnect the power cable.
2. When disconnecting/connecting connectors, pay enough attention to wiring not to damage it.
3. In general, chip parts such as resistor, shorting jumpers (0-ohm resistor), ceramic capacitors, diodes, etc. can not be reused after they were once removed.
4. When installing parts, be careful not to do with other parts as well as not to damage others.
5. When removing ICs, be careful not to damage circuit patterns.

1.1.2 How to read the disassembly and assembly

(For Cabinet Parts)

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	CASSETTE COVER ASSY	C1	*CONNECTOR Ⓐ *CASSETTE COVER INSIDE ASSY	<NOTE 1> <NOTE 2>
②	TOP COVER ASSY	C2	(S2)	<NOTE 3>
③	FRONT COVER ASSY	C3	4(S2) *CAP	<NOTE 4>

① ② ③ ④ ⑤

① : Order of steps in Procedure
When reassembling, preform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

② : Part to be removed or installed.

③ : Fig. No. showing Procedure or Part Location.

C = Cabinet
CA = Camera
D = Deck

④ : Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.

P = Spring
W = Washer
S = Screw
* = Unhook, unlock, release, unplug or unsolder.
2(S1) = 2 Screws (S1)

⑤ : Adjustment information for installation.

1.1.3 Connection of the wires

1. Pull the connector structure upward to release the clamp when removing or inserting the flat wire cable.

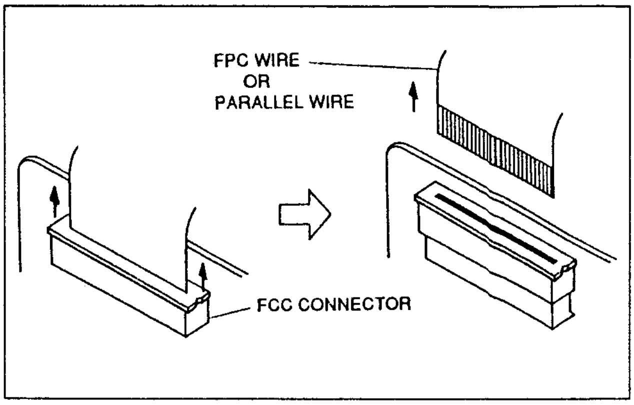


Fig. 1 TYPE A

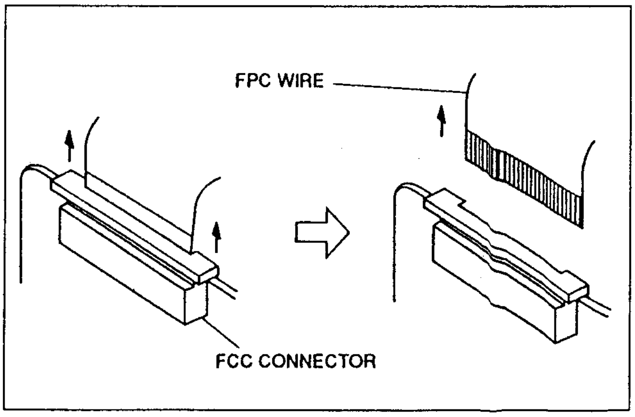


Fig. 2 TYPE B

2. Depress the connector structure downward to release the clamp when removing or inserting the flat wire cable, as indicated below.

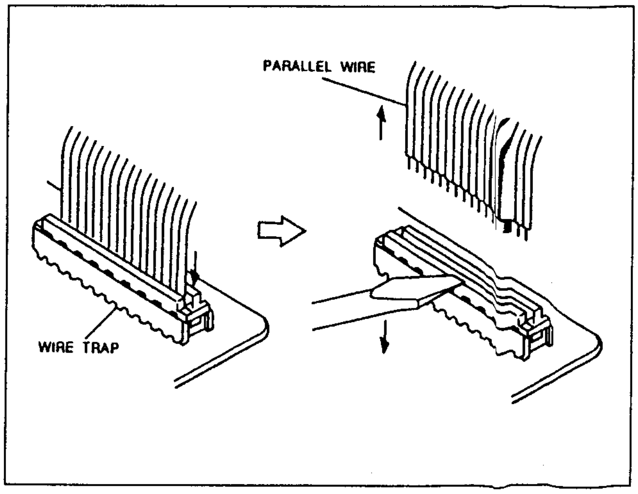


Fig. 3 TYPE C

1.1.4 Main screws to deal with disassembly/assembly

Table 1-1-1 lists screws by their symbols correspond to those shown in figures of this section "Disassembly".

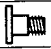
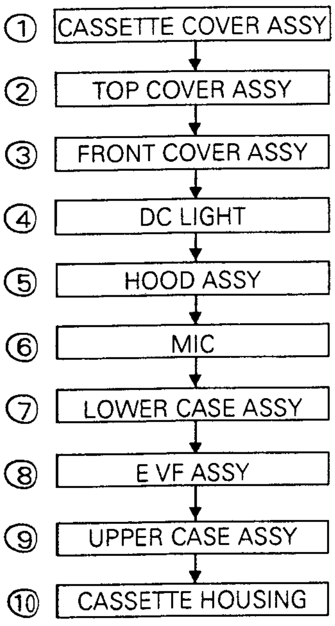
SYMBOL OF SCREW	SHAPE	PART NUMBER
S1		YQM30032-3-2
S2		YQM30032-61
S3		YQM30032-59
S4		YQM30032-5-2
S5		SPSH1725M
S6		SPSP2006Z
S7		YQM30032-60
S8		YQ43545
S9		SPSH1720M
S10		SPSH1725Z
S11		SPSH1730M

Table 1-1-1

1.2 DISASSEMBLY/ASSEMBLY OF CABINET PARTS

1.2.1 Disassembly flow chart

This flowchart indicates the disassembly step for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.


① CASSETTE COVER ASSY
② TOP COVER ASSY
③ FRONT COVER ASSY
④ DC LIGHT
⑤ HOOD ASSY
⑥ MIC
⑦ LOWER CASE ASSY
⑧ E VF ASSY
⑨ UPPER CASE ASSY
⑩ CASSETTE HOUSING

1.2.2 Disassembly method

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	CASSETTE COVER ASSY	C1	*CONNECTOR Ⓐ *CASSETTE COVER INSIDE ASSY 2(L1)	<NOTE 1> <NOTE 2>
②	TOP COVER ASSY	C2	(S2)	<NOTE 3>
③	FRONT COVER ASSY	C3	4(S2) *CAP	<NOTE 4>
④	DC LIGHT	C3	–	–
⑤	HOOD ASSY	C3	2(S2)	–
⑥	MIC	C3	(S2) *CONNECTOR Ⓑ	<NOTE 2>
⑦	LOWER CASE ASSY	C4	9(S2), (S3)	–
⑧	EVF ASSY	C4	2(S4) *CONNECTOR Ⓒ	<NOTE 2>
⑨	UPPER CASE ASSY	C5	7(S2) *CAP (LITIUM)	–
⑩	CASSETTE HOUSING	C6	4(S5)	–

List of Abbreviations:

4(S1)	= 4 Screws (S1)
3(L1)	= 3 Locking Tabs (L1)
3(SD1)	= 3 Solder position (SD1)
3(K1)	= 3 Positioning pins (K1)
2(P1)	= 2 Springs (P1)
2(W1)	= 2 Washers (W1)

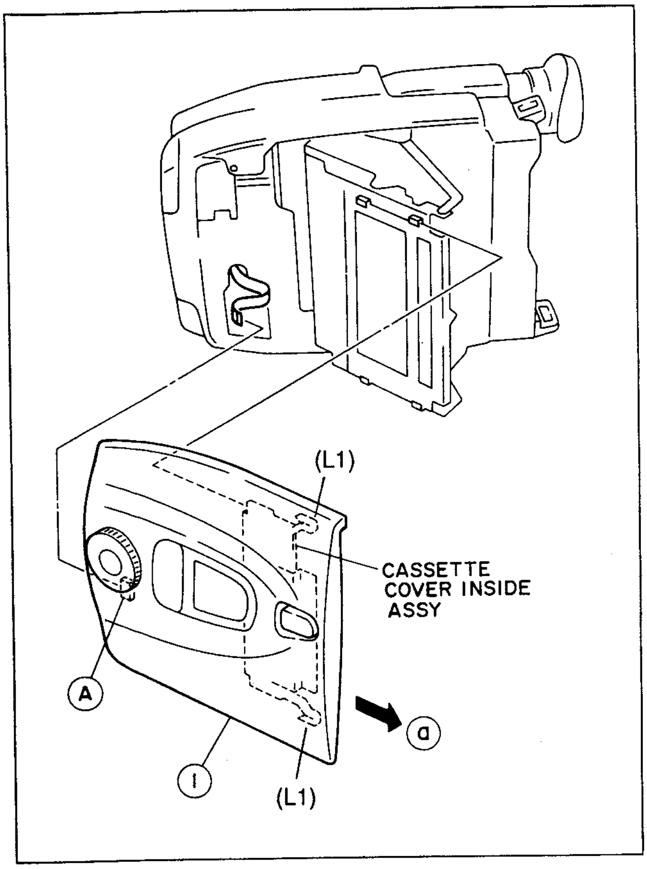

(L1)
CASSETTE COVER INSIDE ASSY
A
1
(L1)
a

Fig. C1

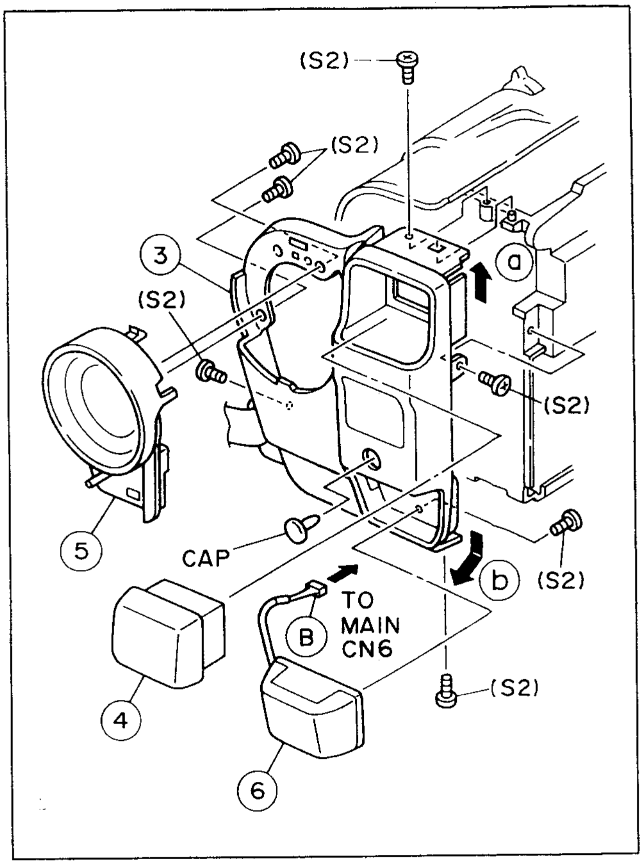

(S2)
(S2)
3
(S2)
a
(S2)
5
CAP
b
(S2)
B
TO MAIN CN6
(S2)
4
6

Fig. C3

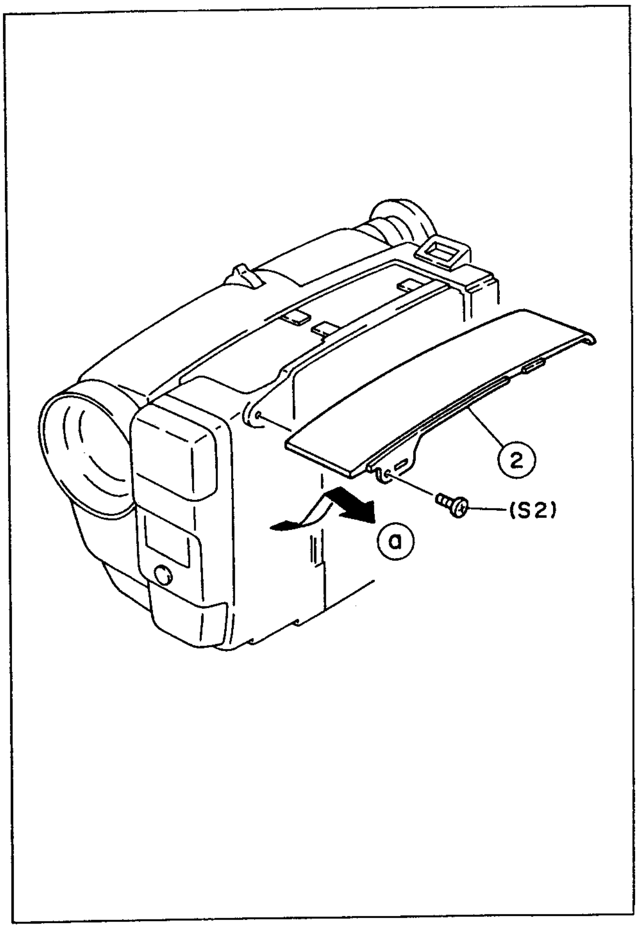


Fig. C2

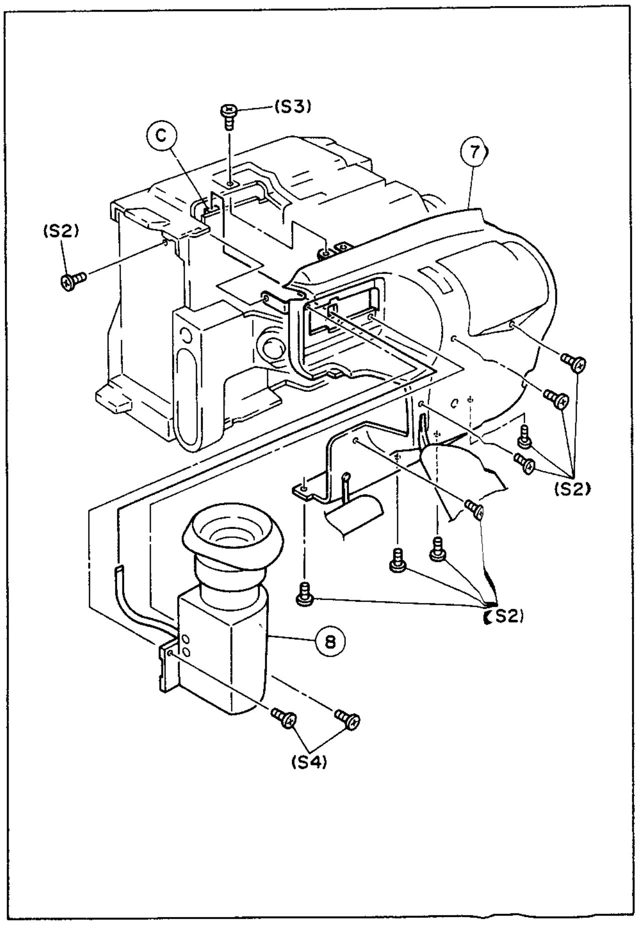

(S3)
C
7
(S2)
(S2)
(S2)
8
(S4)

Fig. C4

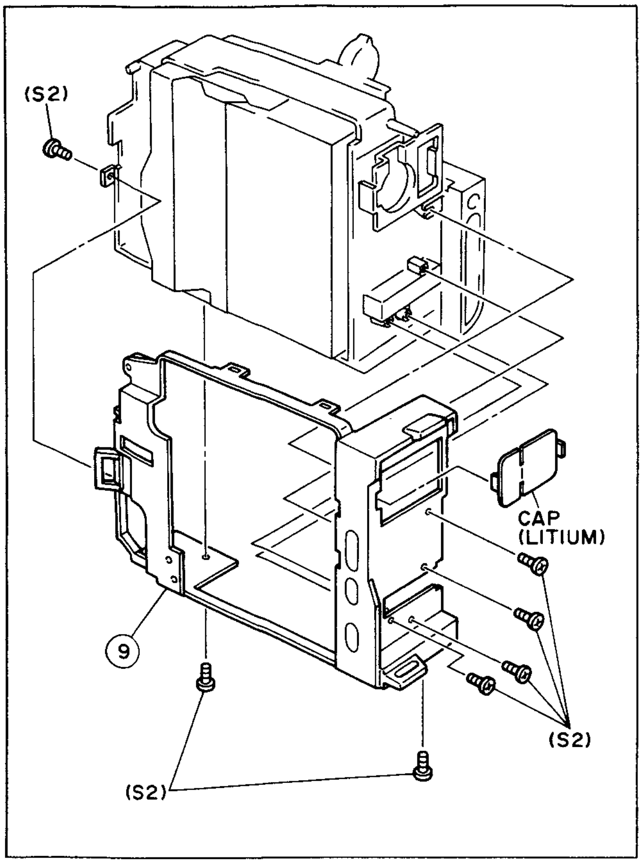


Fig. C5

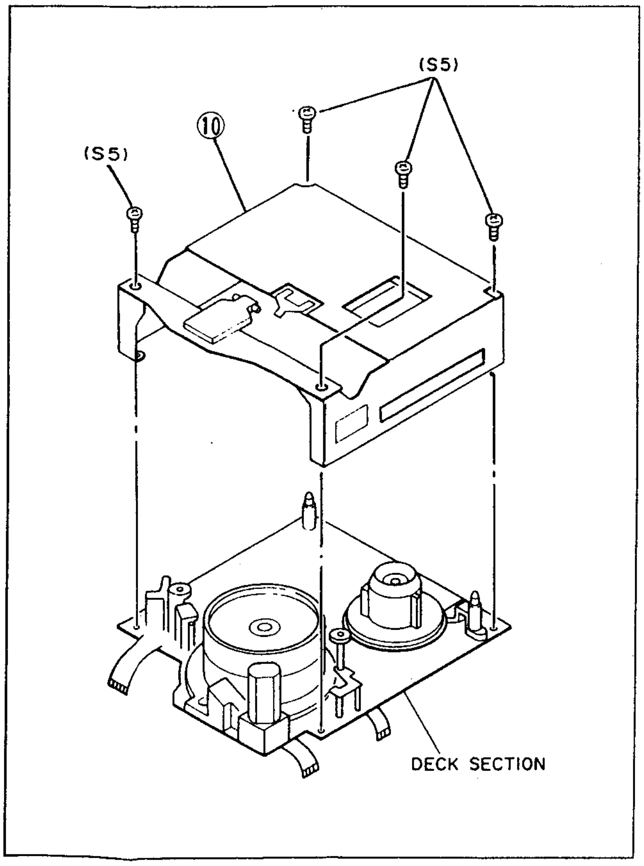


Fig. C6

Reference Notes:

<NOTE 1>

1. Use the AC Power Adaptor (AA-V11U) and supply the DC power to the unit.
   Open the cassette cover by pressing the EJECT switch.
2. Disconnect the DC power source.
3. Pull out either side of cassette cover inside assy and remove ① from the cassette housing in direction of arrow ⓐ, and disconnect connector Ⓐ.

<NOTE 2>

Destination of connectors

Note: ***Three kinds of double-arrows in connection tables respectively show kinds of connector/wires.***

⬌ : Board to Board connector
⇔ : Flat wire
↔ : Wire

Con-nector	No. of Pins	Connector
Ⓐ	10	CAMERA OPERATION ⇔ MAIN CN7
Ⓑ	2	MIC ↔ MAIN CN6
Ⓒ	10	E VF ⇔ MAIN CN14

<NOTE 3>

Remove one screw (S2), pull ② in direction of front side and remove it in direction of the arrow ⓐ.

<NOTE 4>

Remove one cap and remove four screws (S2).
Lift up the top of ③ in direction of arrow ⓐ and remove it in direction of the arrow ⓑ.

1.3 DISASSEMBLY/ASSEMBLY OF CAMERA PARTS

1.3.1 Disassembly flow chart

This flowchart indicates the disassembly step for the CAMERA parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.

① CCD BOARD ASSY
↓
② OP BLOCK ASSY
↓
③ PROCESS BOARD ASSY
↓
④ CCD IMAGE SENSOR
*Refer to section 1.6

1.3.2 Disassembly method

STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	CCD BOARD ASSY	CA1	2(S6) *CONNECTOR Ⓐ-Ⓒ	<NOTE 1> <NOTE 2>
②	OP BLOCK ASSY	CA1	2(S7) *CONNECTOR Ⓓ	<NOTE 1>
③	PROCESS BOARD ASSY	CA1	3(S7) *CONNECTOR Ⓔ	<NOTE 1>

List of Abbreviations:
4(S1) = 4 Screws (S1)
3(L1) = 3 Locking Tabs (L1)
3(SD1) = 3 Solder position (SD1)
3(K1) = 3 Positioning pins (K1)
2(P1) = 2 Springs (P1)
2(W1) = 2 Washers (W1)

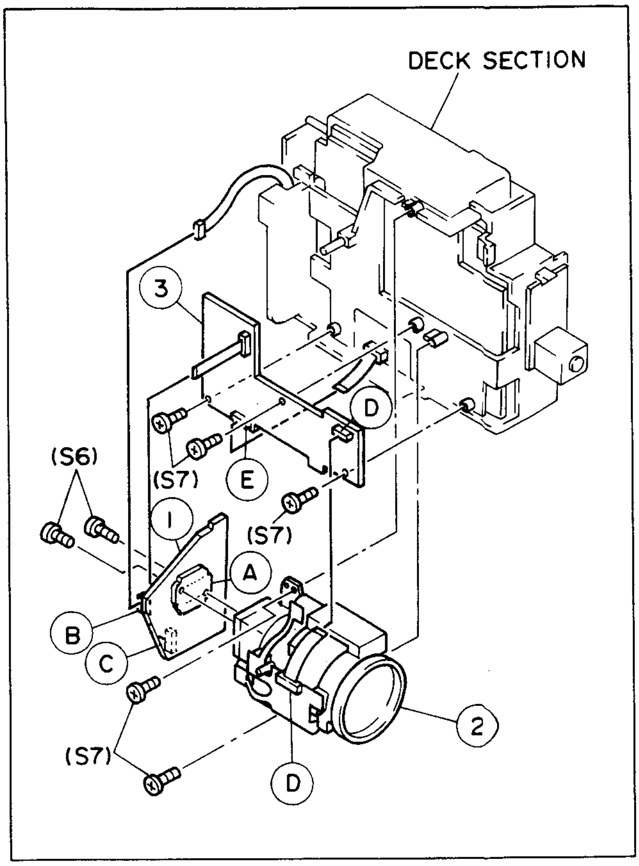


Fig. CA1

Reference Notes:
<NOTE 1>
Destination of connectors
Note: *Three kinds of double-arrows in connection tables respectively show kinds of connector/wires.*
⬌: Board to Board connector
⇔: Flat wire
↔: Wire

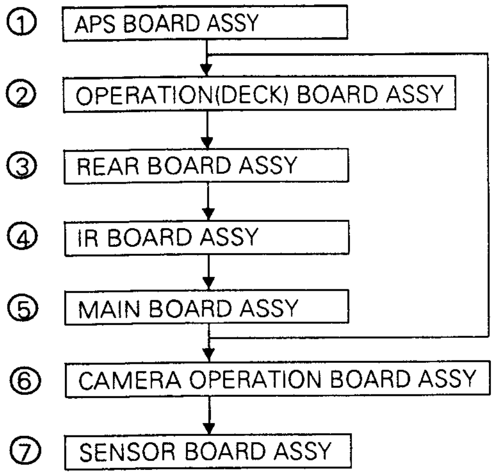
Con-nector	No. of Pins	Connector		
Ⓐ	16	CCD CN101	⬌	CCD SOCKET
Ⓑ	28	CCD CN102	⇔	PROCESS CN201
Ⓒ	7	CCD CN103	↔	REAR CN3
Ⓓ	22	OP BLOCK	⇔	PROCESS CN202
Ⓔ	18	PROCESS CN203	⇔	MAIN CN17

<NOTE 2>
1. Remove two screws (S6).
2. Move the CCD board in the direction of the rear side. At that time, pay careful attention to pins (connector Ⓐ) of the CCD image sensor so as not to damage them.

1.4 DISASSEMBLY/ASSEMBLY OF DECK PARTS

1.4.1 Disassembly flow chart

This flowchart indicates the disassembly step for the DECK parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally.

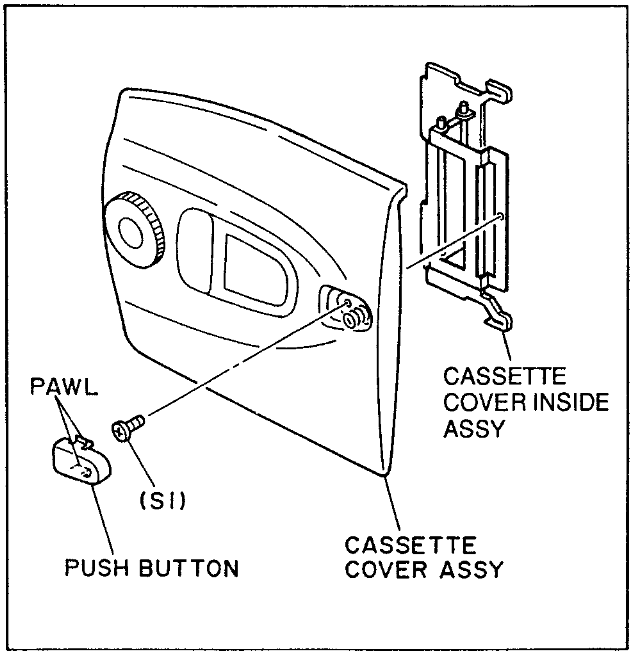


① APS BOARD ASSY
② OPERATION(DECK) BOARD ASSY
③ REAR BOARD ASSY
④ IR BOARD ASSY
⑤ MAIN BOARD ASSY
⑥ CAMERA OPERATION BOARD ASSY
⑦ SENSOR BOARD ASSY

1.4.2 Disassembly method

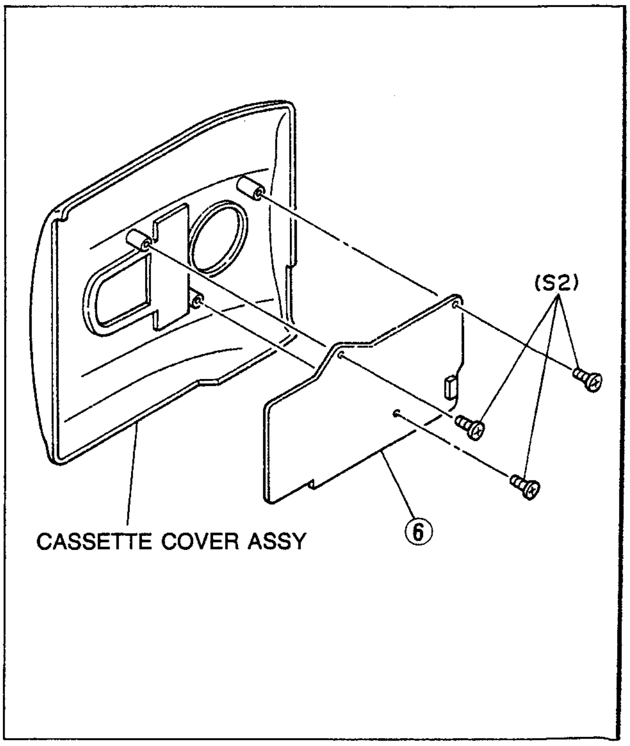
STEP /LOC NO.	PART	Fig. No.	REMOVAL	
			*UNLOCK/RELEASE/ UNPLUG/UNCLAMP/ UNSOLDER	Note
①	APS BOARD ASSY	D1	(S7) *CONNECTOR Ⓐ	<NOTE 1>
②	OPERATION (DECK) BOARD ASSY	D1	2(S7) *CONNECTOR Ⓑ	<NOTE 1>
③	REAR BOARD ASSY	D1	*CONNECTORS Ⓒ - Ⓔ	<NOTE 1>
④	IR BOARD ASSY	D1	*CONNECTOR Ⓕ	<NOTE 1>
⑤	MAIN BOARD ASSY	D1	2(S8), (S9), (S1) *FRAME ASSY *CONNECTORS Ⓖ - Ⓜ	<NOTE 1>
⑥	CAMERA OPERATION BOARD ASSY	D2 D3	3(S2), (S1) *PUSH BUTTON *CASSETTE COVER INSIDE ASSY	<NOTE 2>
⑦	SENSOR BOARD ASSY	D4	2(S10), 4(S11) WORM BRACKET	<NOTE 3>

List of Abbreviations:
4(S1) = 4 Screws (S1)
3(L1) = 3 Locking Tabs (L1)
3(SD1) = 3 Solder position (SD1)
3(K1) = 3 Positioning pins (K1)
2(P1) = 2 Springs (P1)
2(W1) = 2 Washers (W1)



PAWL
CASSETTE COVER INSIDE ASSY
(S1)
PUSH BUTTON
CASSETTE COVER ASSY

Fig. D2



(S2)
CASSETTE COVER ASSY
⑥

Fig. D3

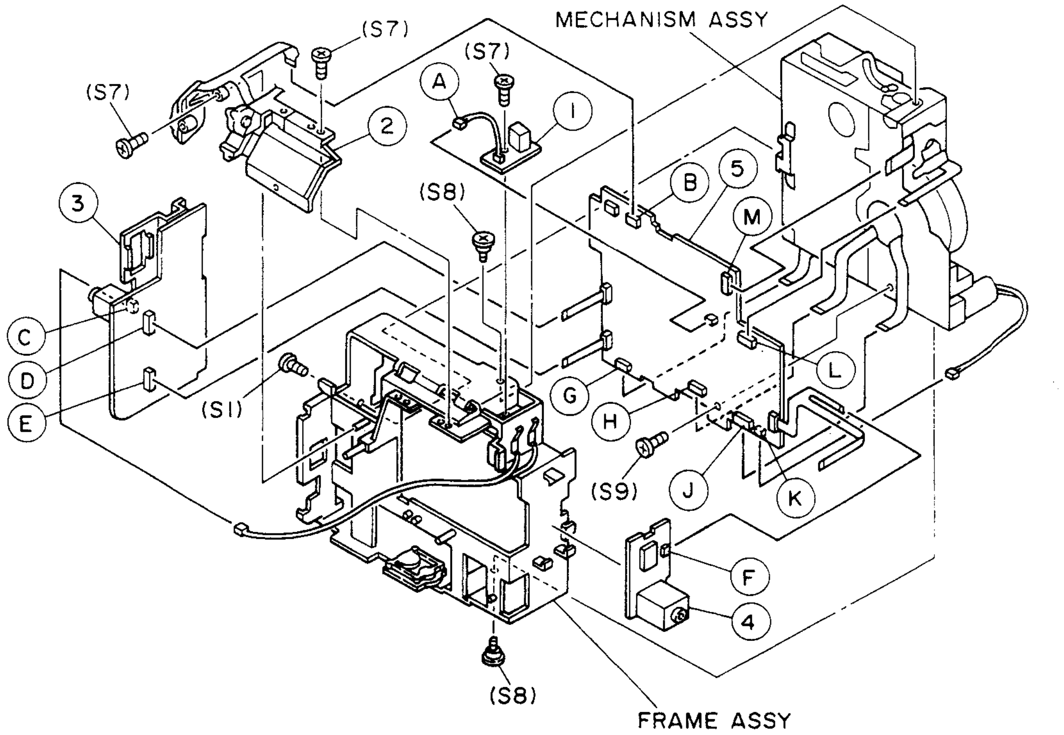

(S7)
(S7)
MECHANISM ASSY
(S7)
Ⓐ
Ⓘ
②
(S8)
Ⓑ
⑤
③
Ⓜ
Ⓒ
Ⓓ
Ⓔ
(S1)
Ⓖ
Ⓛ
Ⓗ
(S9)
Ⓙ
Ⓚ
Ⓕ
④
(S8)
FRAME ASSY

Fig. D1

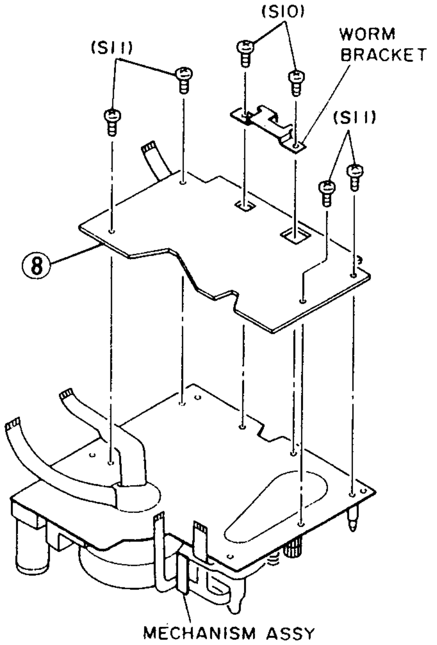

(S10)
(S11)
WORM BRACKET
(S11)
⑧
MECHANISM ASSY

Fig. D4

Con-nector	No. of Pins	Connector		
Ⓐ	3	APS CN1	↔	MAIN CN9
Ⓑ	13	OPERATION (DECK)	⇔	MAIN CN13
Ⓒ	2	REAR CN4	⇔	LAMP
Ⓓ	18	REAR CN2	⇔	MAIN CN15
Ⓔ	18	REAR CN1	⇔	MAIN CN16
Ⓕ	6	IR	⇔	MAIN CN7
Ⓖ	14	MAIN CN1	⇔	SENSOR
Ⓗ	11	MAIN CN2	⇔	VIDEO HEAD
Ⓙ	18	MAIN CN3	⇔	DRUM MOTOR
Ⓚ	2	MAIN CN4	⇔	MODE MOTOR
Ⓛ	11	MAIN CN8	⇔	A/C HEAD
Ⓜ	18	MAIN CN10	⇔	CAPSTAN MOTOR

Reference Notes:

<NOTE 1>

Destination of connectors

Note: *Three kinds of double-arrows in connection tables respectively show kinds of connector/wires.*

⬌ : Board to Board connector
⇔ : Flat wire
↔ : Wire

<NOTE 2>

1. To detach the push button, release it from locking by three pawls and move it.
2. Remove one screw (S1) and remove the cassette cover inside assy. (Fig. D2)
3. Remove three screws (S2) and remove ⑥. (Fig. D3)

<NOTE 3>

When disconnecting, do it very carefully since the other side connector Ⓖ is attached to a flexible wire.

1.5 TO TAKE OUT CASSETTE TAPE

When the deck enters the Emergency mode with cassette tape loaded and it cannot be ejected by pressing the EJECT button, take out of the cassette housing according to the following procedure.

1. Disconnect the deck from the power source.
2. To detach the push button, release it from locking by three pawls by using (–) screw driver as shown in the magnified view Ⓐ and move it. (Fig. 1-5-1)
3. Remove one screw, slide the cassette cover assy and remove it in direction of arrow ⓐ from cassette housing. Remove the cassette cover assy in direction of arrow ⓑ and release the connector on camera operation board. (Fig. 1-5-1)
4. Remove wires of the mode control motor as shown in the magnified view Ⓑ and connect jumping wires to the terminals. (Fig. 1-5-2)
5. Holding the cassette housing by hand, connect the jumping wires to battery and set the mechanism for unloading as it is in the Eject mode. In the condition, turn the take-up gear (see the magnified view Ⓒ) in the direction of the arrow Ⓒ (toward the drum) to wind the tape. Checking up whether the tape is damaged or not, stop holding of the cassette housing by hand. (Fig. 1-5-2)

Note: ***If the mechanism comes into the unloading mode as the cassette tape is not held by hand, it results in tape damage.***

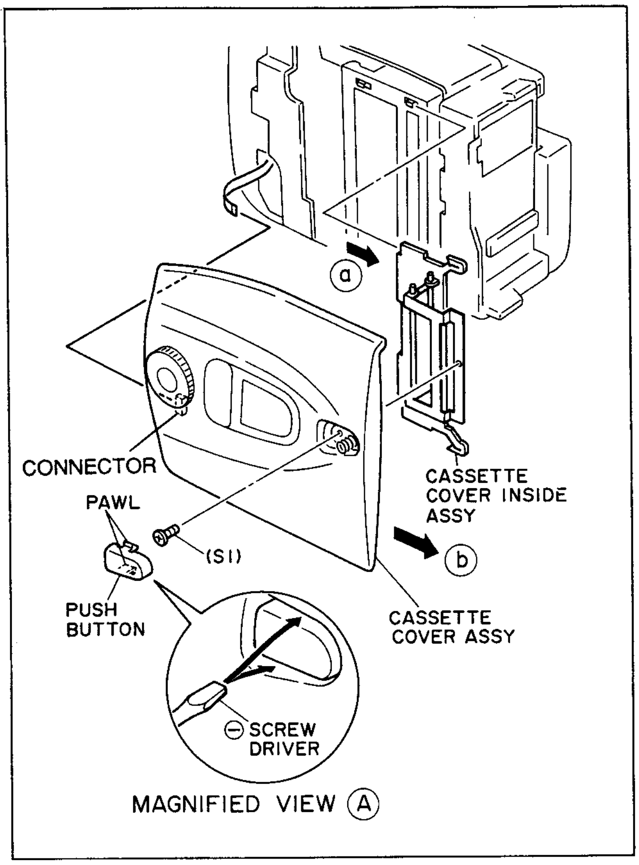
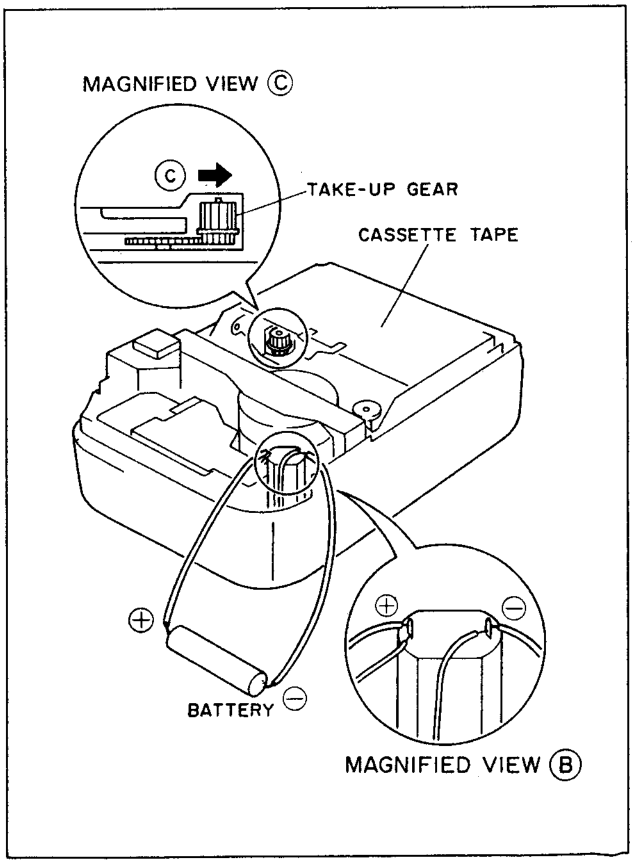

ⓐ
CONNECTOR
PAWL
CASSETTE COVER INSIDE ASSY
(S1)
ⓑ
PUSH BUTTON
CASSETTE COVER ASSY
⊖SCREW DRIVER
MAGNIFIED VIEW Ⓐ

Fig. 1-5-1


MAGNIFIED VIEW Ⓒ
ⓒ
TAKE-UP GEAR
CASSETTE TAPE
⊕
⊖
BATTERY
⊕
⊖
MAGNIFIED VIEW Ⓑ

Fiig. 1-5-2 CASSETTE TAPE

1.6 REPLACEMENT OF CCD IMAGE SENSOR

Notes:

- *Pay the most careful attention to the transparent glass and optical LPF of the CCD image sensor so a not the soil and damage them. If something is soiled with finger-prints, etc., gently clean it with silicon-processed paper/cloth or chamois.*
- *When the CCD image sensor is shipped from the factory, there are protection seals applied onto the transparent glass. Leave the protector as it is, and take it off just before assembling the CCD image sensor to the OP block.*

1.6.1 Removal of CCD image sensor

1. Remove two screws Ⓐ securing the CCD base, and disassemble the CCD spacer, the optical LPF, spacer rubber.

1.6.2 Installation of new CCD image sensor

1. Remove the protection seal from a new CCD image sensor. Next, put the spacer rubber, optical LPF, CCD spacer on the CCD image sensor as they are piled up in this order. At that time, make sure of orientation of each item refering to the following table (see Fig. 1-6-1).

Part Name	Orientation
CCD image sensor	Mark is on the right viewed as indicated by the arrow ⓐ.
Spacer rubber	IC side is horizontal.
Optical LPF	Marks are on the left and bottom viewed as indicated by the arrow ⓐ.

2. Fix the CCD base to OP block with the two screws Ⓐ. At that time, be careful of the orientation.
3. After completion of all P.C. boards to the camera section, observe the monitor to confirm no vignetting caused by the bodytube, rings, lens hood, etc. If no vignetting is observed, it can be said that image's parallel, horizontality and centering are correct.

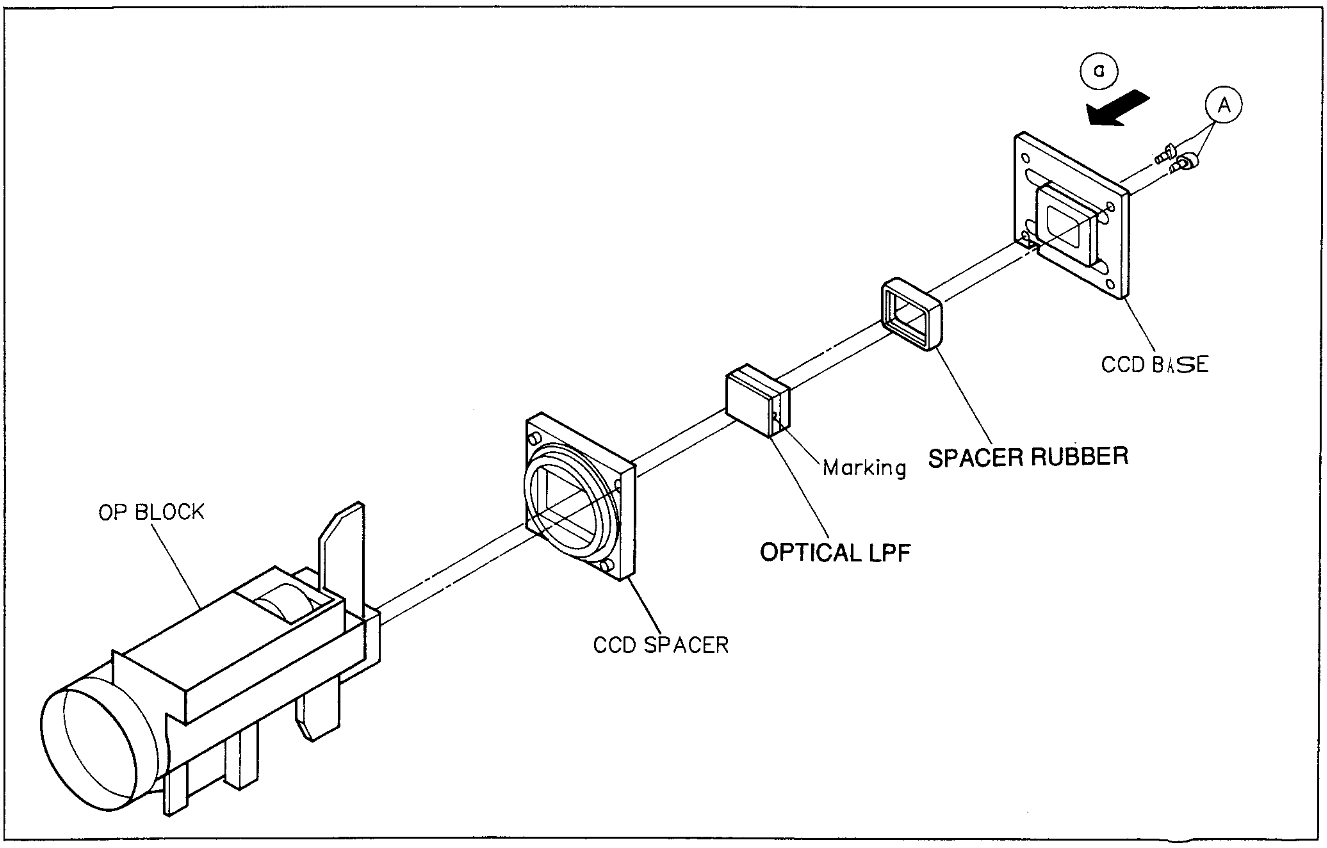


Fig. 1-6-1 CCD image sensor

1.7 EXTENSION CABLE CONNECTION (YTU93076A)

Connector	Pins	Connection	Part Number	Description
①	6	MAIN CN7 ↔ IR	YTU94077-6 YTU94074-6	
②	10	MAIN CN14 ↔ E VF MAIN CN7 ↔ CAMERA OPERATION	YTU94077-10 YTU94074-10	
③	11	MAIN CN8 ↔ A/C HEAD	YTU94077-11 YTU94074-11	
④	13	MAIN CN13 ↔ DECK OPERATION	YTU94077-13 YTU94074-13	
⑤	7	CCD CN103 ↔ REAR CN3	YUJ40095A-7	
⑥	18	MAIN CN16 ↔ REAR CN1 MAIN CN15 ↔ REAR CN2 MAIN CN1 ↔ CAPSTAN MOTOR	YTU94077-18 YTU94074-18	
⑦	22	MAIN CN17 ↔ PROCESS CN203 PROCESS CN202 ↔ OP BLOCK	YTU94077-22 YTU94074-22	
⑧	28	PROCESS CN201 ↔ CCD CN102	YTU94077-28 YTU94074-28	

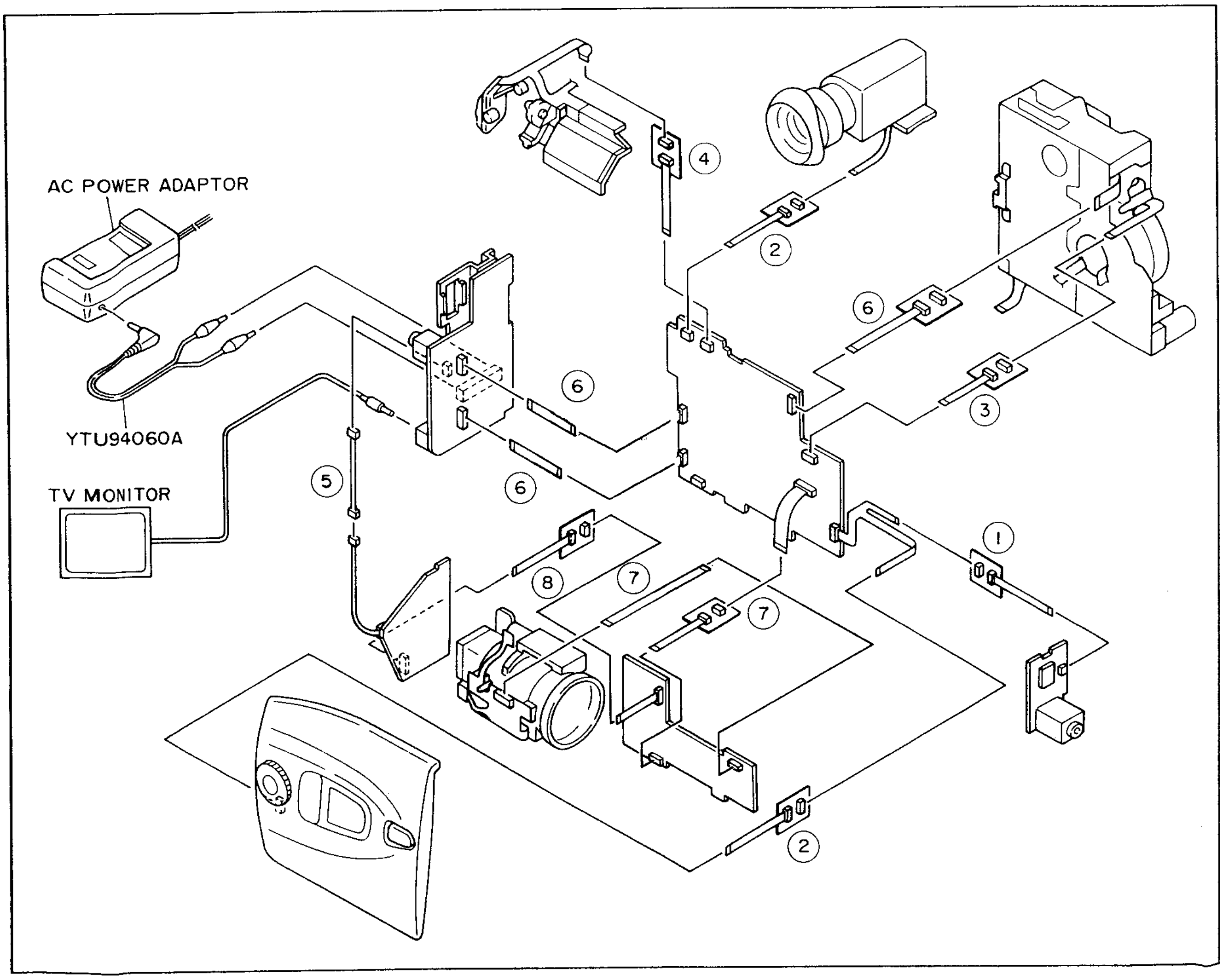


Fig. 1-7-1 EXTENSION CABLE CONNECTION

SECTION 2
MECHANISM ADJUSTMENT

2.1 SERVICE CAUTIONS

2.1.1 Precautions

1. Before disassembling/re-assembling the set as well as soldering parts, make sure to disconnect the power cable.
2. When disconnecting/connecting connectors, pay enough attention to wiring not to damage it.
3. When installing parts, be careful not to do with other parts as well as not to damage others. (Pay the most careful attention to the upper drum assy and tape transport mechanism.)

2.1.2 How to read the disassembly and assembly (For Mechanism Parts)

① : Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.

② : Part to be removed or installed.

③ : Location of part.

T = Top
B = Bottom

④ : Fig. No. showing Procedure or Part Location.

M = Mechanism

⑤ : Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.

P = Spring
W = Washer
S = Screw
* = Unhook, unlock, release, unplug or unsolder.

⑥ : Adjustment information for installation.
(+) = Refer to Exploded Views for Lubrication information.

2.1.3 Main screws and washers to deal with disassembly/assembly

Table 2-1-1 lists screws and washers by their symbols which correspond to those shown in figures of this section "Disassemby and Assembly".

SYMBOL OF WASHER	SHAPE	PART NUMBER
S1		SPSH1730M
S2		SPSH1740Z
S3		YQ43816
S4		SSSH1730M
S5		SPSH1740M
S6		SPSH1720M

SYMBOL OF WASHER	SHAPE	PART NUMBER
W1	⊜	PQM30017-27
W2	⊜	Q03093-835
W3	⊜	PQM30017-25

Table 2-1-1

(For Mechanism Parts)

STEP/LOC. No.	PART		Fig. No.	REMOVAL *UNHOOK/UNLOCK /RELEASE/UNPLUG /UNSOLDER	INSTALLATION ADJUSTMENT CONDITION NOTE
①	REEL DISK (SUP)	T	M1	(W1), (W2)	-
②	IMP. ROLLER ASSY	T	M1	(S1)	-
③	TENSION ARM ASSY	T	M1	(W1)	-
④	SLANT ARM ASSY	T	M1	(W1)	-
⑤	CANCEL LEVER ASSY	T	M2	(W1)	-
⑥	EJECT LEVER ASSY	T	M2	(W2)	-
⑦	CASSETTE BLOCK	T	M2	(S13)	-

① ② ③ ④ ⑤ ⑥

2.2 DISASSEMBLY/ASSEMBLY OF MECHANISM PARTS

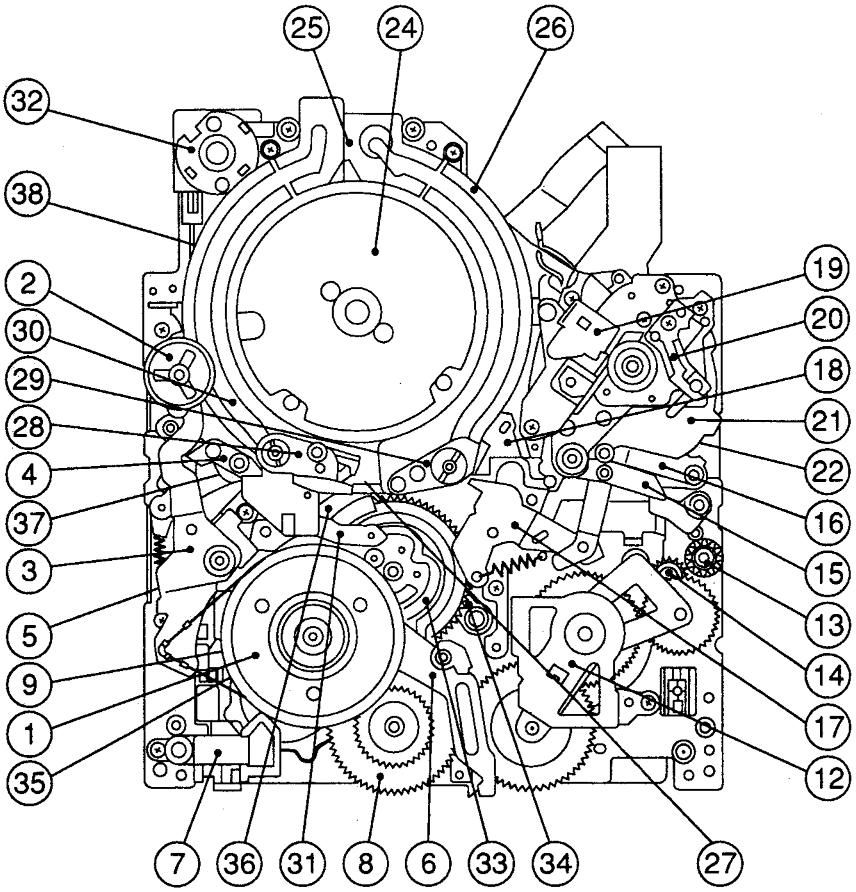
This procedure starts with the condition that the cabinet parts and deck parts. Also, all the following procedures for adjustment and parts replacement should be performed in STOP mode. When reassembling, perform the step(s) in the reverse order.

STEP/LOC. No.	PART		Fig. No.	REMOVAL	INSTALLATION
				*UNHOOK/UNLOCK /RELEASE/UNPLUG /UNSOLDER	ADJUSTMENT CONDITION NOTE
①	REEL DISK (SUP)	T	M1	(W1), (W2)	–
②	IMP. ROLLER ASSY	T	M1	(S1)	–
③	TENSION ARM ASSY	T	M1	(W1), (P1)	–
④	SLANT ARM ASSY	T	M1	(W1), (P2)	–
⑤	CANCEL LEVER ASSY	T	M2	(W1)	–
⑥	EJECT LEVER ASSY	T	M2	(W1)	–
⑦	CASSETTE GUIDE (L) ASSY	T	M2	(S2)	–
⑧	SUPPLY CLUTCH ASSY	T	M2	(W1)	–
⑨	WHEEL GEAR	T	M2	(W1)	See, Adjustment procedure for Section 2.4
⑩	SENS BOARD ASSY	B	M3	4(S1)	–
⑪	TIMING BELT	B	M3	–	–
⑫	CENTER PULLEY UNIT	T/B	M3	2(S1)	–
⑬	TU GEAR	T	M3	(W1)	–
⑭	BRAKE SUB GEAR	T	M3	(W1)	–
⑮	P.R ARM ASSY	T	M3	(W3)	–
⑯	TU GUIDE ARM ASSY	T	M3	(W1)	–
⑰	LINK ARM ASSY	T	M4	(W3)	–
⑱	LED GUIDE	T	M4	(S1)	–
⑲	A/C HEAD UNIT	T	M4	2(S3)	–
⑳	SLANT POLE BASE ASSY	T	M5	(S3)	–
㉑	CAP MOTOR ASSY	T	M5	3(S3)	–
㉒	MOTOR BASE	T	M5	2(S2), (S4)	–
㉓	BRUSH	B	M6	(S1)	–
㉔	DRUM FINAL	T/B	M6	2(S2)	–
㉕	CATCHER	T	M6	2(S2)	–
㉖	GUIDE RAIL	T	M6	8(S1)	–
㉗	DRUM SPACER	T	M6	2(S2)	–
㉘	POLE BASE (SUP)	T	M6	–	–
㉙	POLE BASE (TU)	T	M6	–	–
㉚	COVER PLATE	T	M7	–	–
㉛	DRIVE LEVER ASSY	T	M7	–	–
㉜	MOTOR BRACKET ASSY	T	M7	3(S2)	–
㉝	CONTROL CAM	T	M8	(W3)	See, Adjustment procedure for Section 2.4
㉞	LINK LEVER ASSY	T	M8	–	–
㉟	MIDDLE GEAR	T	M8	–	–
㊱	LOADING GEAR(T) ASSY	T	M8	(W1)	See, Adjustment procedure for Section 2.4
㊲	LOADING GEAR(S) ASSY	T	M8	(W1)	–
㊳	LOADIDNG RING ASSY	T	M8	4(S2)	See, Adjustment procedure for Section 2.4

List of Abbreviations:

4(S1) = 4 Screws (S1)		3(K1) = 3 Positioning pins (K1)	
3(L1) = 3 Locking Tabs (L1)		2(P1) = 2 Springs (P1)	
3(SD1) = 3 Solder position (SD1)		2(W1) = 2 Washers (W1)	

TOP VIEW


㉕
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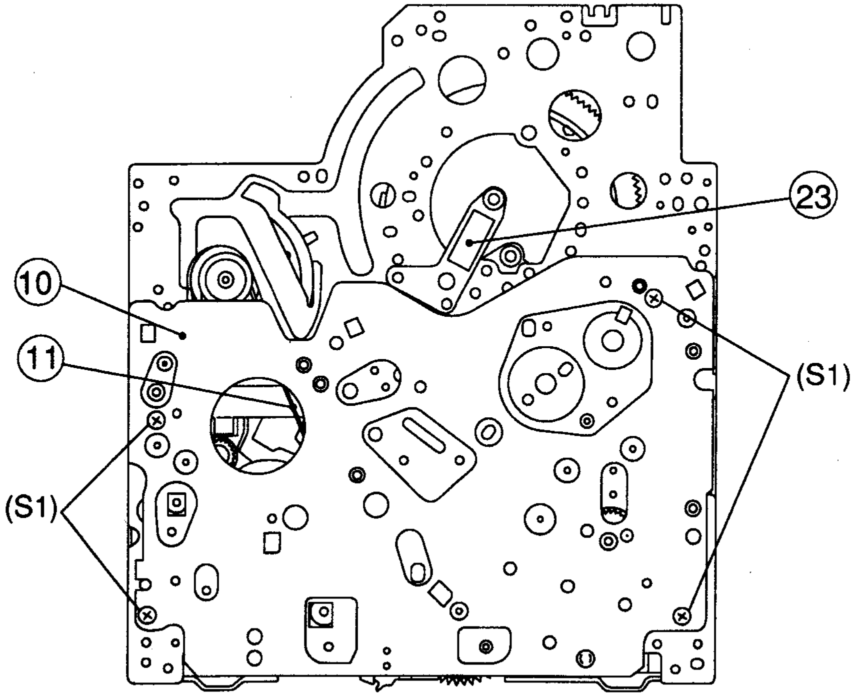
BOTTOM VIEW



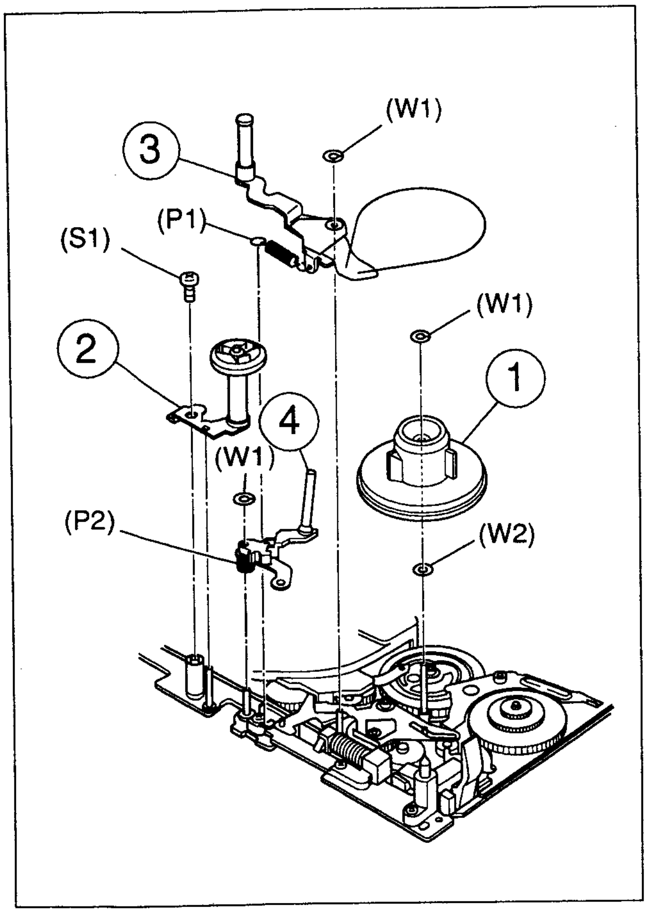

(W1)
3
(P1)
(S1)
(W1)
2
1
4
(W1)
(P2)
(W2)

Fig. M1

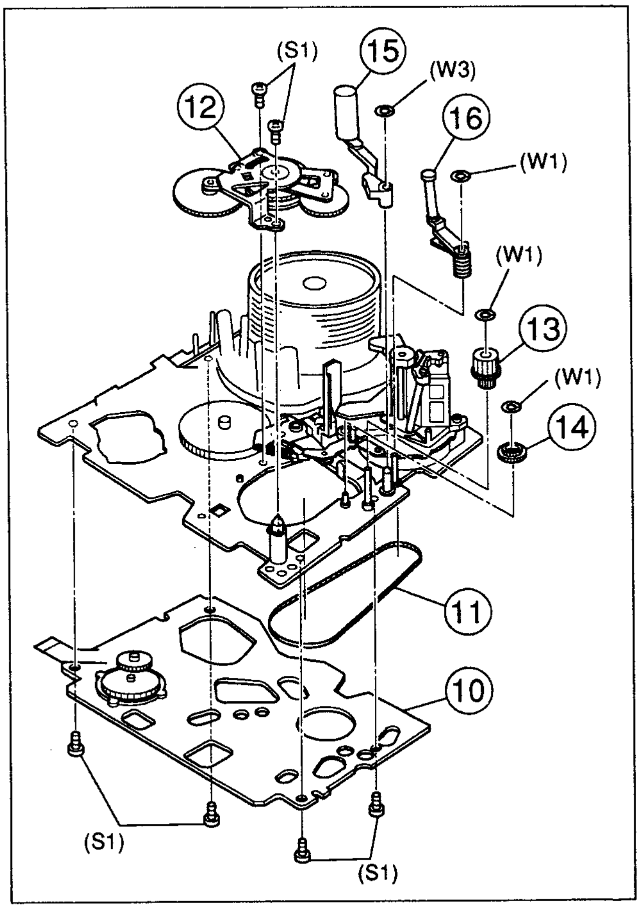

(S1)
15
(W3)
12
16
(W1)
(W1)
13
(W1)
14
11
10
(S1)
(S1)

Fig. M3

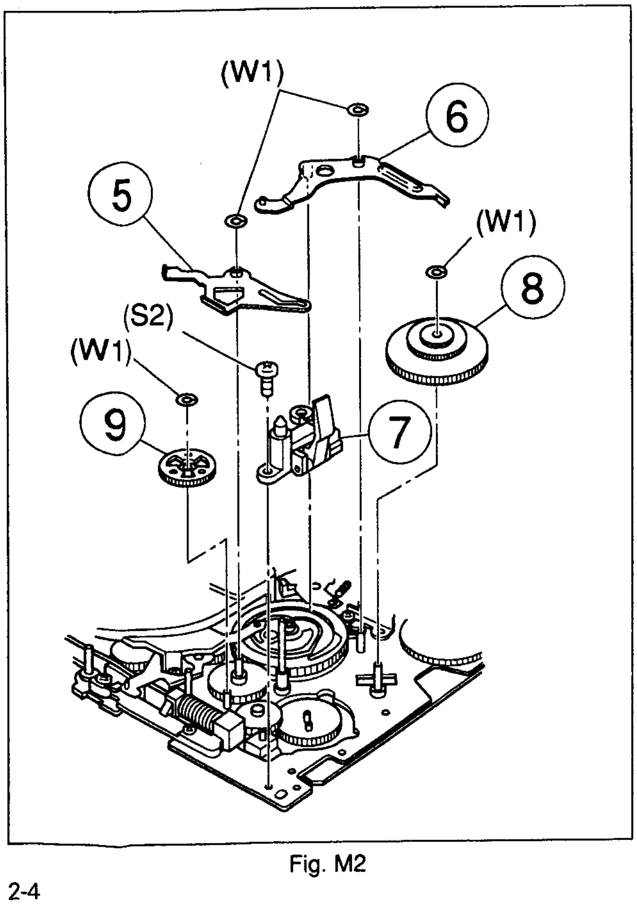

(W1)
6
5
(W1)
8
(S2)
(W1)
9
7

Fig. M2

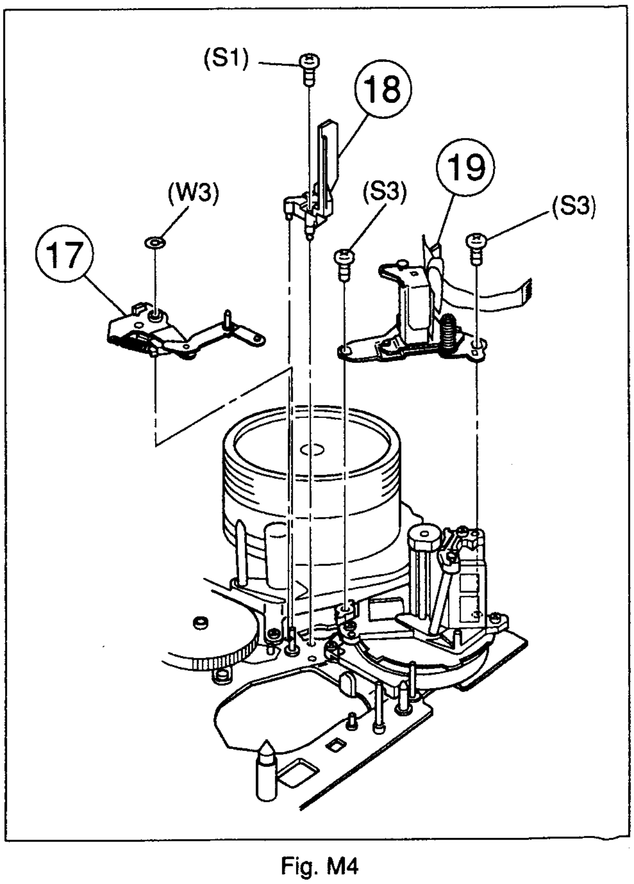

(S1)
18
19
(W3)
(S3)
(S3)
17

Fig. M4

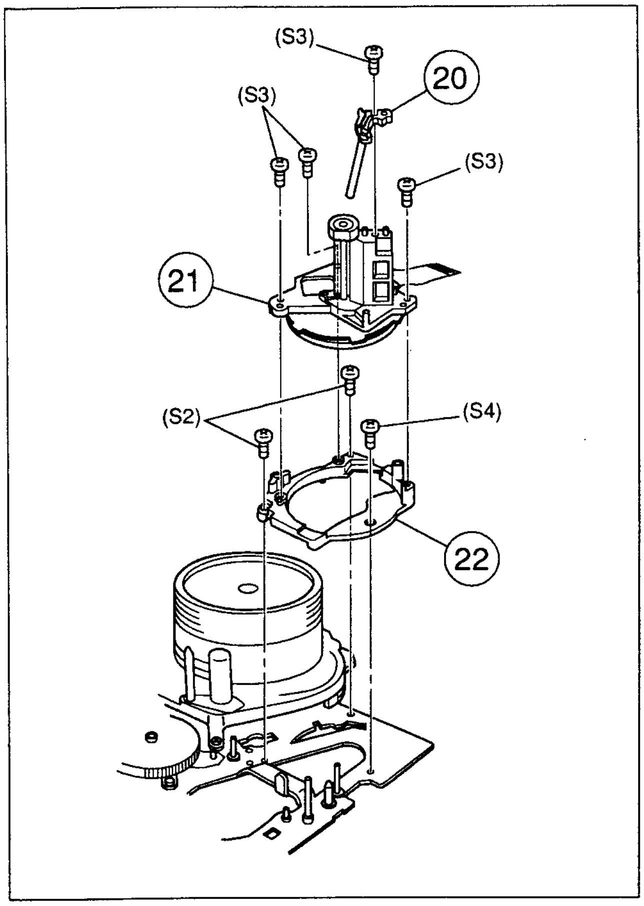

(S3)
(S3)
20
(S3)
21
(S2)
(S4)
22

Fig. M5

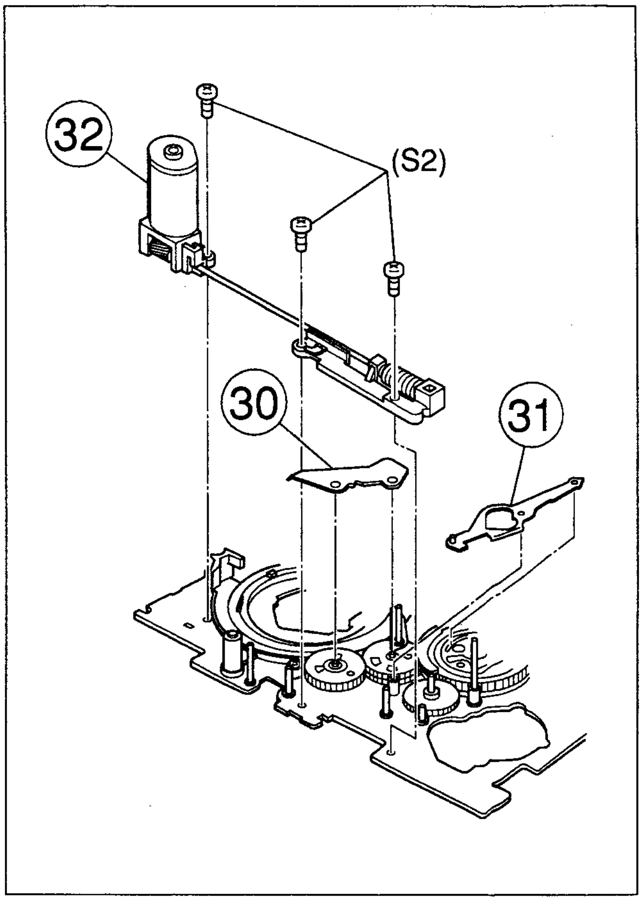


Fig. M6

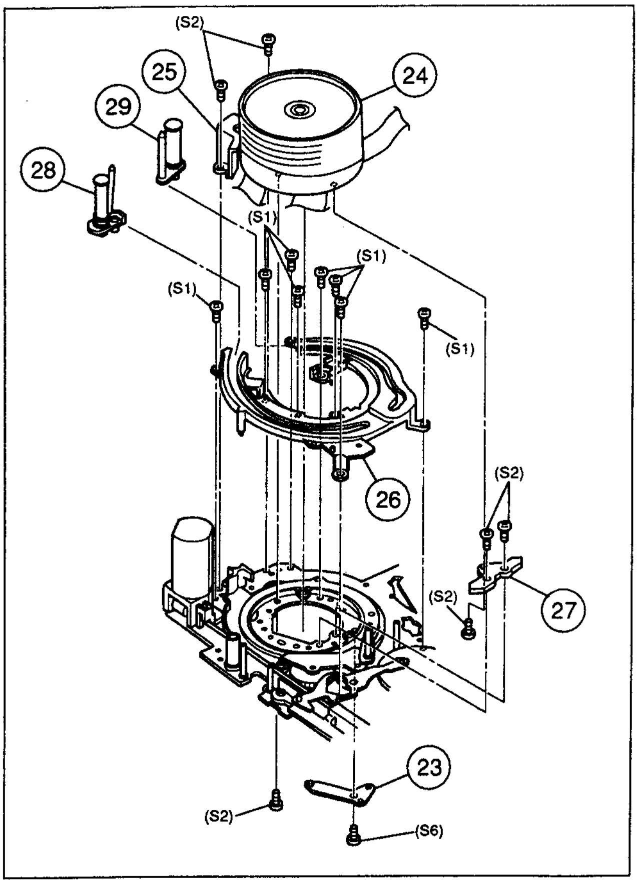

(S2)
25
24
29
28
(S1)
(S1)
(S1)
(S1)
26
(S2)
(S2)
27
23
(S2)
(S6)

Fig. M5A

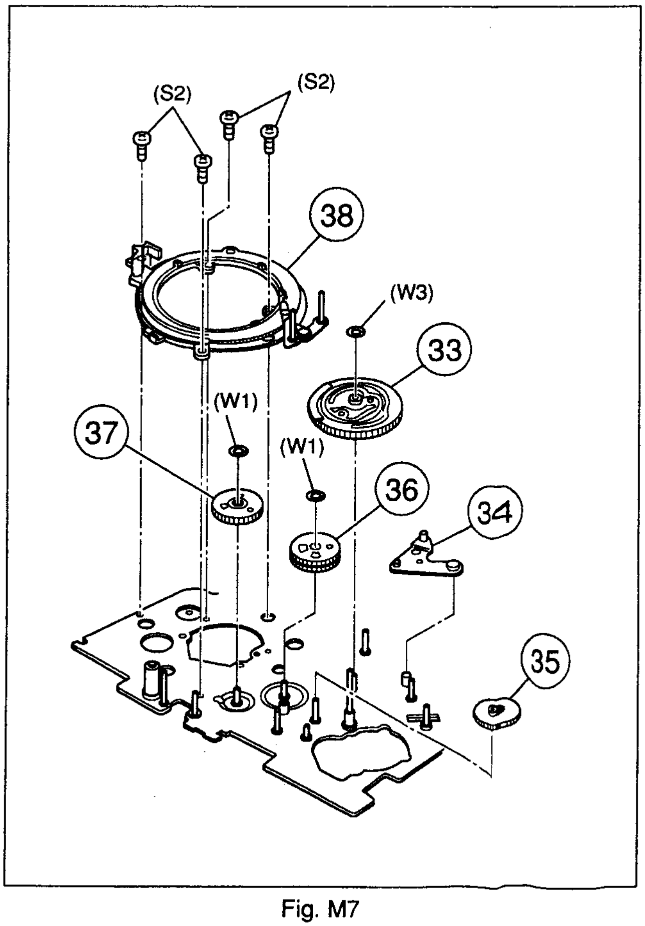

(S2)
(S2)
38
(W3)
33
(W1)
37
(W1)
36
34
35

Fig. M7

2.3 REPLACEMENT OF UPPER DRUM

Note: *Be very careful not to touch any hand of a new upper drum as well as not to damage the drum.*

2.3.1 Removal of upper drum

1. Carefully unsolder at 10 points shown in Fig. 2-3-1 on the UPPER DRUM board.

   Note: *If solder is not completely removed, it may cause damage of the head pins when the upper drum is removed.*

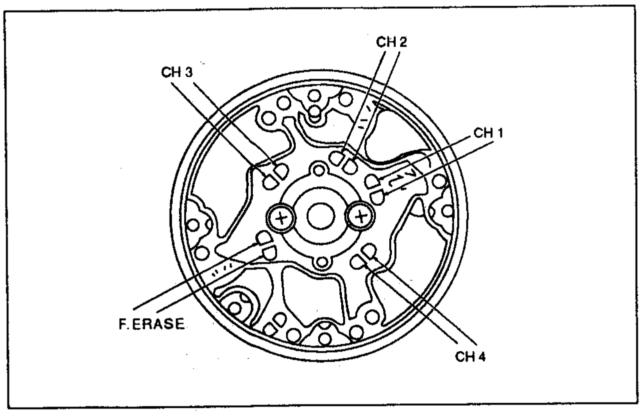


Fig. 2-3-1 Upper drum replacement (1)

2. Remove two screws and draw out the upper drum in the direction of the arrow.

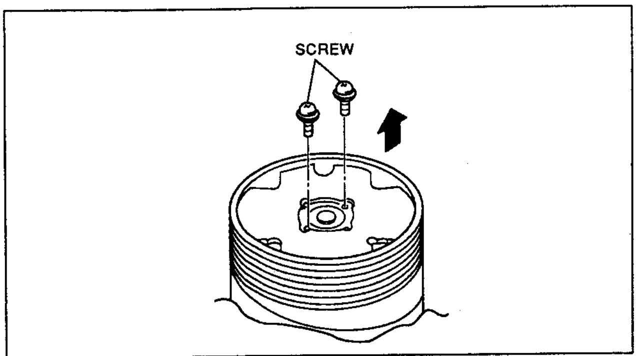


Fig. 2-3-2 Upper drum replacement (2)

3. When it is hard to remove the upper drum, set the upper drum removal tool (YTU94031A) with the screws which are once removed in the step 2, and tighten the center screw to remove it easily.

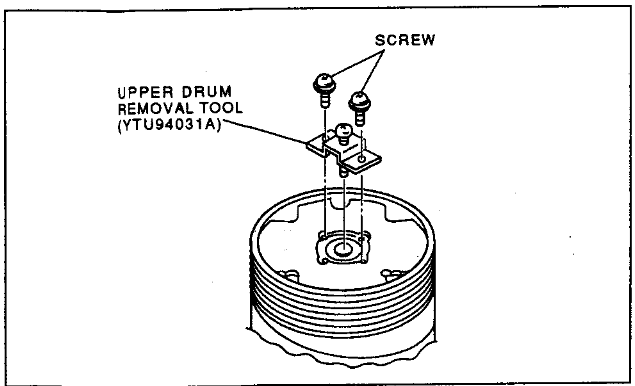


Fig. 2-3-3 Upper drum replacement (3)

2.3.2 Installation of new upper drum

1. Before installing a new upper drum, insert a soldering iron (50 W) into the hole of the upper drum and heat it for about 3 to 5 minutes to expand it.

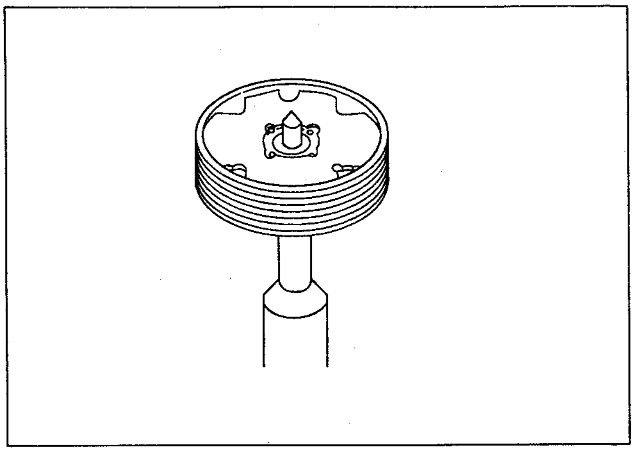


Fig. 2-3-4 Upper drum replacement (4)

2. Install the new upper drum so that its arrow marking is positioned at an angle of 140° to the rotary transformer's mold (having no relay pin) of the lower drum.

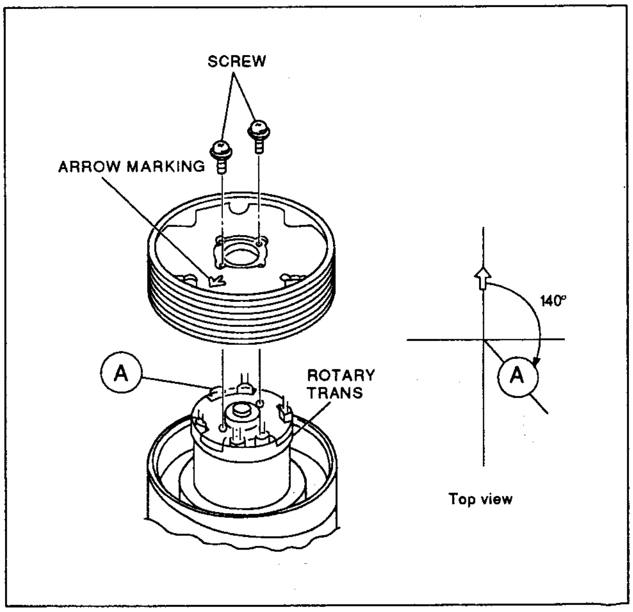


Fig. 2-3-5 Upper drum replacement (5)

3. Tighten the screws lightly first, then, alternately tighten them gradually as the upper drum is cooled.
4. After replacement finishes, make sure to check up and deck section adjust.

2.4 CHECKUP AND ADJUSTMENT OF MECHANISM PHASE

Note: *Pay careful attention to the installing order and phase of mechanism parts of the loading system.*

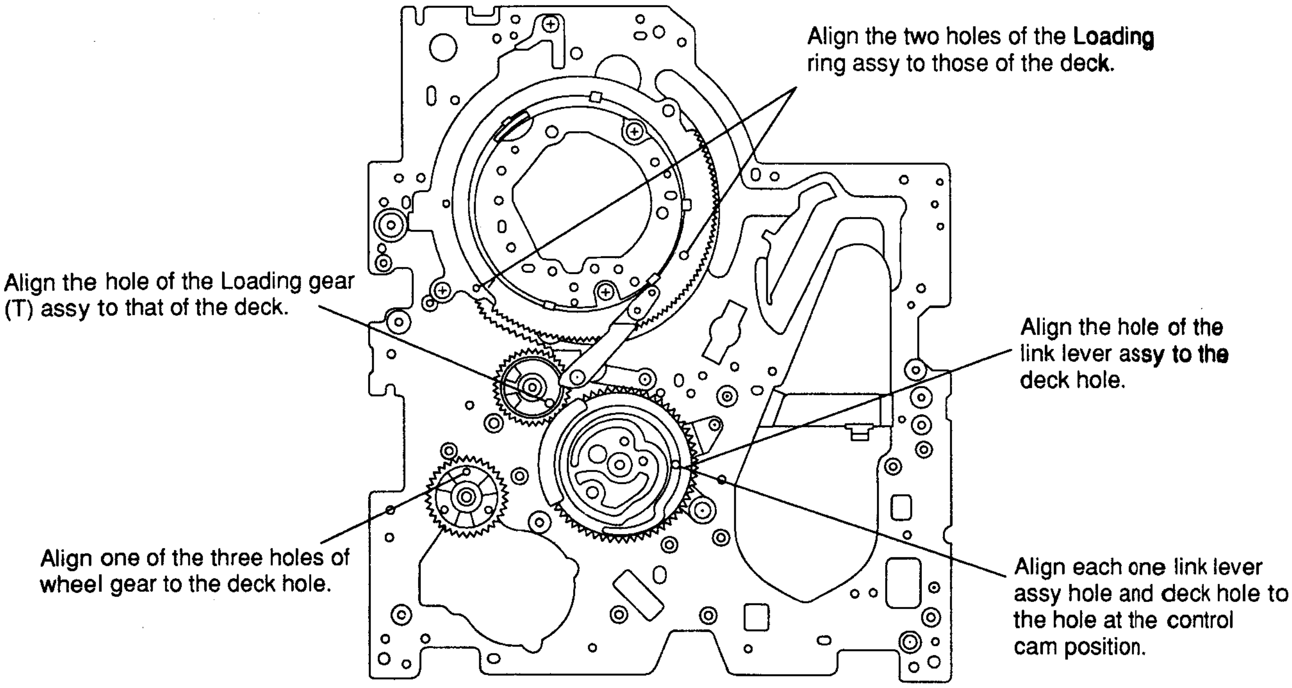

Align the two holes of the Loading ring assy to those of the deck.
Align the hole of the Loading gear (T) assy to that of the deck.
Align the hole of the link lever assy to the deck hole.
Align one of the three holes of wheel gear to the deck hole.
Align each one link lever assy hole and deck hole to the hole at the control cam position.

Fig. 2-4-1 TOP OF MAIN DECK

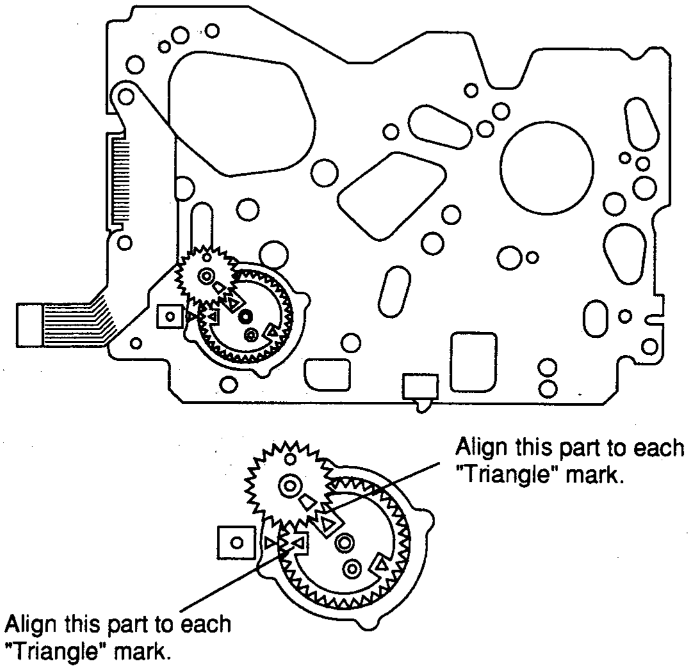

Align this part to each "Triangle" mark.
Align this part to each "Triangle" mark.

Fig. 2-4-2 SENSOR BOARD

2.5 TAPE TRANSPORT ADJUSTMENT

In most cases the deck section is in need electrical adjustment, it results from replacement of worm mechanical parts or video heads. In the event of malfunction with electrical circuits, troubleshouting with the aid of proper test instruments most be done first, and then commence necessary repair, replacement and adjustment, etc.

2.5.1 Required adjustment tools

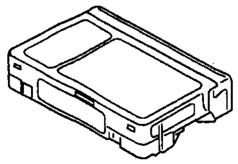
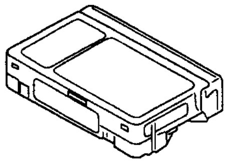
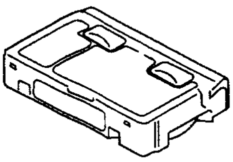
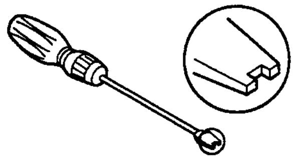
Alignment tape for SP interchangeability (MHP-C)	Alignment tape for EP interchangeability (MHP-LC)
	
Cassette torque meter PUJ50431-2	Roller driver PTU94002
	

Table 2-5-1

2.5.2 Back tension

1. Set a cassette torque meter onto the deck and measure the back tension in standard REC mode to confirm that the back tension is 13 – 20 gr-cm.
2. If not, replace the tension band.
   When the value widely fluctuates in the measurement, replace the supply reel disk.
3. With the cassette torque meter, confirm that the play torque is 15 – 25 gr-cm.
   If necessary, replace the center pully unit..

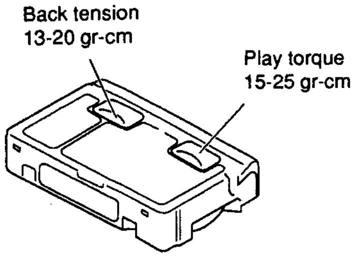


Fig. 2-5-1 Cassette torque meter

2.5.3 Tape pattern

1. Observe signal at pin 2 of CN20 (V. TP FM) with external trigger from pin 5 of CN20 (V. H. FF) on the MAIN board.
2. Play back the SP stairstep signal of the alignment tape, and maximize the FM waveform by the tracking button.
3. Set the tracking control to the center position by simultaneously pressing the tracking (–) and (+) buttons and maximize the FM waveform by the tracking button.
4. If the observed FM wav eform is not flat, adjust the height of the supply of take-up guide roller with the roller driver (PTU940002).

   Note: *To prevent the tape from damage, turn the guide rollers slowly.*

5. By operating the tracking button (both in + and – directions) in the manual tracking mode, vary the output level of the FM waveform from maximum to minimum and vice versa to confirm that the waveform varies nearly in a flat shape.
6. When the FM waveform breaks in the level varying process, subtly adjust the height of guide rollers at every breaking point so that the waveform varies as flat as possible.
   Repeat the above steps 5. and 6. several times to confirm that the waveform is flat as a whole.
7. Play the EP stair step signal of alignment tape and adjust the tracking control to maximize the FM waveform, confirm that FM waveform variation is always flat.
8. Record the signal and play it back in both of the SP and EP mode, and confirm that the FM waveform is flat in both modes.

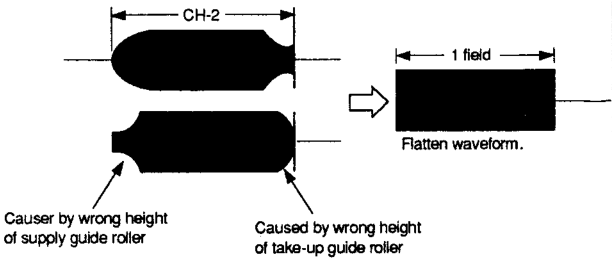

CH-2
1 field
Flatten waveform.
Causer by wrong height of supply guide roller
Caused by wrong height of take-up guide roller

Fig. 2-5-2 FM waveform-1

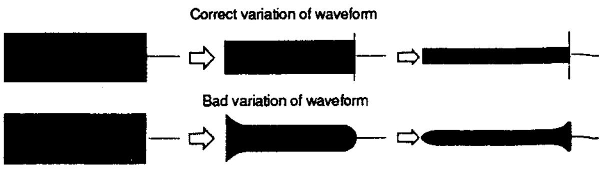


Fig. 2-5-3 FM waveform-2

9. Through the above steps, confirm that there occur no wrinkling and damage in the tape around the pinch roller and TU guide pole whenever the deck is in operation of Loading/Unloading, Search Rewind and at mode change from Search Rewind to play mode. If wrinkling or damage in the tape occurs around the TU guide pole, adjust the angle (slant) of the A/C head to the tape. So that the tape normally runs along the lower flange of the guide pole.

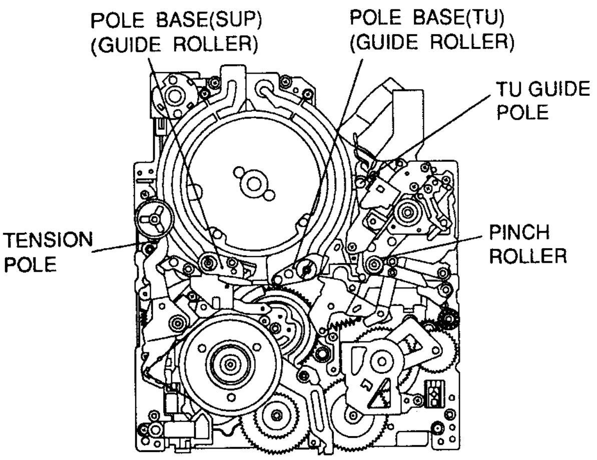

POLE BASE(SUP)
(GUIDE ROLLER)
POLE BASE(TU)
(GUIDE ROLLER)
TU GUIDE
POLE
TENSION
POLE
PINCH
ROLLER

Fig. 2-5-4 Tape transport system

2.5.4 A/CTL head height & azimuth

1. Play back the SP 7 kHz segment of the alignment tape and observe waveform at AUDIO OUT.
2. Turn the screw Ⓐ, Ⓑ (tilt) and Ⓒ (azimuth) gradually (at an angle of 45°approx.) in the same direction to obtain the maximum output level.
3. As final fine adjustment, adjust the screw Ⓑ for minimum level fluctuation and the screw Ⓒ for maximum output level.

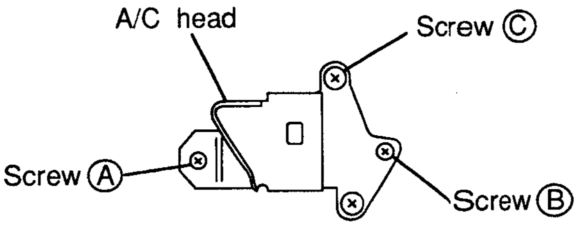

A/C head
Screw Ⓒ
Screw Ⓐ
Screw Ⓑ

Fig. 2-5-5 A/C head

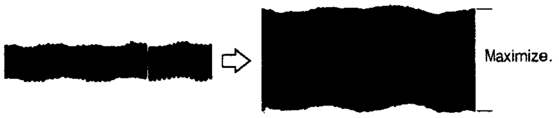


Fig. 2-5-6 Audio signal

2.5.5 Phase of control head (X value)

1. Play back the SP stairstep signal of the alignment tape and observe signal at pin 2 of CN20 (V.TP FM) with external trigger from pin 5 of CN20 (V.H.FF) on the MAIN board.
2. Operate the tracking button in the center and manual tracking mode by pressing the tracking (+) and (–) buttons and confirm that the FM output level is maximum at the center position as shown in Fig. 2-5-8.
3. If necessary, slightly loosen the setscrews Ⓓ and Ⓔ and insert the Tweezers into the notch and guide hole to move the A/C head fully in the direction of the capstan to the extent.
4. Gradually move the A/C head toward the drum to find the position where the FM output level maximum for the first time (a' – b' in Fig. 2-5-8).
5. Fine adjust the phase of the A/C head and tighten the screws Ⓓ and Ⓔ at the point a.
6. Play back the EP stairstep signal of the alignment tape (MHP-LC) and confirm that the FM waveform is maximized at the center detent position of the tracking button.
7. Confirm that the above steps 2. and 6. are satisfactory at the same time.
   If not, repeat the steps 3. through 6..

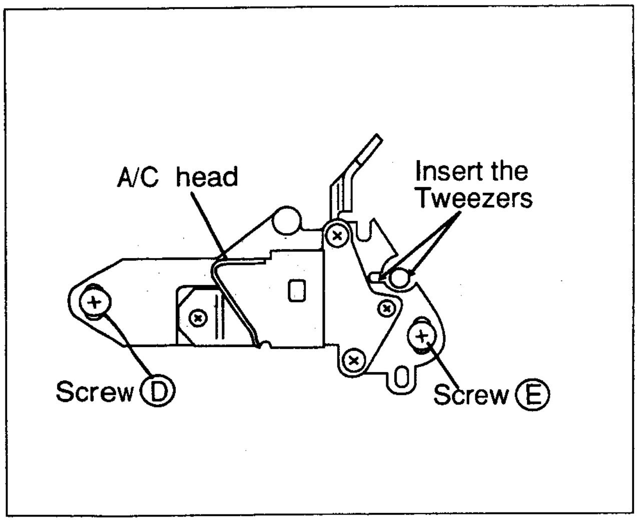


Fig. 2-5-7 Phase of control head

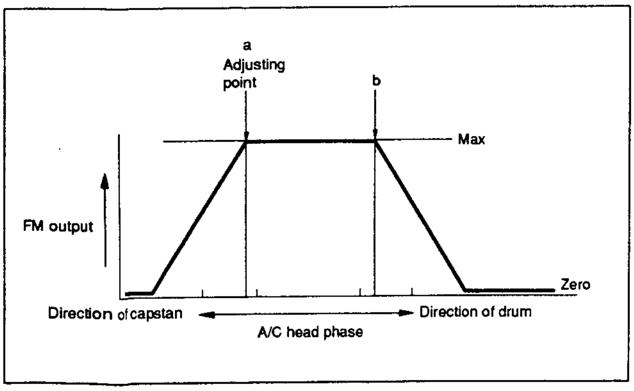


Fig. 2-5-8 Phase adjustment point of control head

2.6 REMARKS

2.6.1 Cleaning

1. For cleaning of the upper drum (particularly video heads), use fine-woven cotton cloth or Kimwipe with alcohol soaks through. Do not move the cloth but turn the upper drum counterclockwise.

   Note: ***Make sure not to move the cloth in the vertical direction to the video head, since it may cause damage of the video heads.***

2. For cleaning of parts of the tape transport system except the upper drum, use fine-woven cotton cloth or cotton swab soaked alcohol.
3. After cleaning, confirm that the cleaned parts are completely dry before loading the deck with cassette tape.

2.6.2 Applying oil and grease

1. Periodical oiling and greasing are not required but should be done to new parts when replacing. If oil and grease on the other parts of the other party are old and dirty, wipe them clean and apply new oil or grease.
2. For parts and points to apply oil and grease, refer to the exploded view of the mechanism assembly (M3).
   Table 2-6-1 specifies oil and grease to be used.
3. When oiling, clean the objective parts with alcohol first and apply one or two drop(s) of oil. Too much oiling causes rotary parts to slip because of oil leakage.

Classification	Name	Part No.	Symbol in drawing
Grease	Grease	KYODO-SH-P	AA
Oil	Cosmo Hydro HV100	YTU94027	BB

Table 2-6-1 Specific oil and grease to be used

2.6.3 Checkup

After replacement of the supply reel disk and tension band, make sure to inspect beck tension according to the adjustment procedure of MECHANISM ADJUSTMENT section.

SECTION 3
ELECTRICAL ADJUSTMENT

3.1 ELECTRICAL ADJSUTMENT

3.1.1 PREPARATION

1. Precaution

This model does not contain adjustment controls (VR) . General deck system and camra system adjustment are not required. However, if PROCESS board need replacement, please use original E^{2}PROM on to new board. Then adjustment are not required. And if parts such as the following need replacement, special computerized adjustment are required (Refer to sec. 3.1.1-5) . Please contact to JVC service for detaile information.

- OP block
- E^{2}PROM (IC702 of PROCESS board)

In the event of malfunction with electrical circuits, trouble-shooting with the aid of proper test instruments most be done first, and then commence necessary repair, replacement and adjustment, etc.

1. In case of wiring to chip test points for measurement, use IC clips, etc. to avoid any stress.
2. Since connectors are fragile, carefully handle them in disconnecting and connecting.
3. Shortcircuit between opration unit and DECK chassis.

2. Required test equipment

1. Color TV monitor.
2. AC power adapter (AA-V10 and AA-V6U or equivalent) .
3. Oscilloscope (Dual-trace type, for more than 20 MHz) .
4. Digital voltmeter
5. Personal computer

3. Required adjustment tools

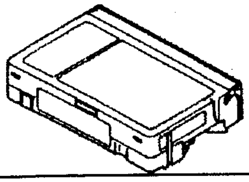
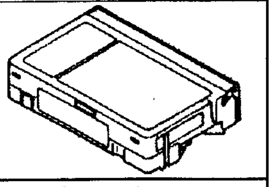
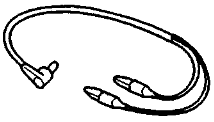
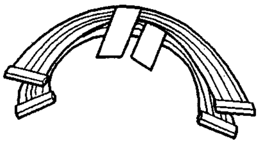
Alignment tape for SP interchangeability (MHP-C)	Alignment tape for N. SP PB Y/C level (MHV-2C)
	
Power cord YTU94060A	Patch cord set YTU93076A
	

Table 3-1-1 Required adjustment tools

4. Setup for E. VF section adjustment

1. Referring to 'sec. 1. DISASSEMBLE' and connect the COLOR VF connector CN101 of the PBL board to CN14 of the MAIN board of deck section (for GR-AX900U) .
2. Referring to 'sec. 1. DISASSEMBLE' and connect the E. VF connector CN1 of the E. VF board to CN14 of the MAIN board of deck section (for GR-AX800U)

5. Required adjustment tools for Service support system

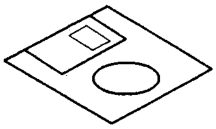
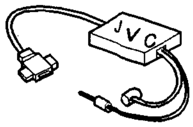
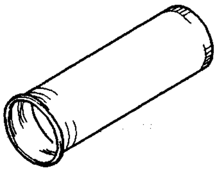
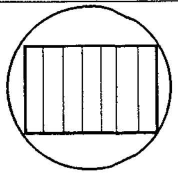
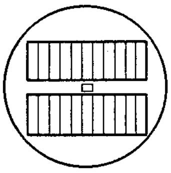
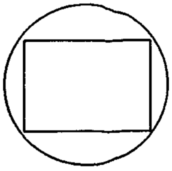
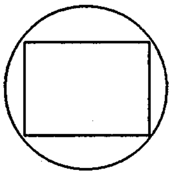
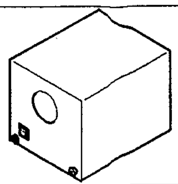
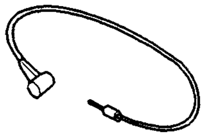
Service Support System software YTU94057-13	Interface cable YTU93063
	
Infinity adjustment lens YTU92001B	Color bar chart YTU92001-051
	
Gray scale chart YTU92001-052	White balance chart YTU92001-053
	
Skintone chart YTU92001-054	Light box YTU93072
	
Adapter cable YTU94066	
	

Table 3-1-2 Required adjustment tools for Service support system

6. Connections for Service support system

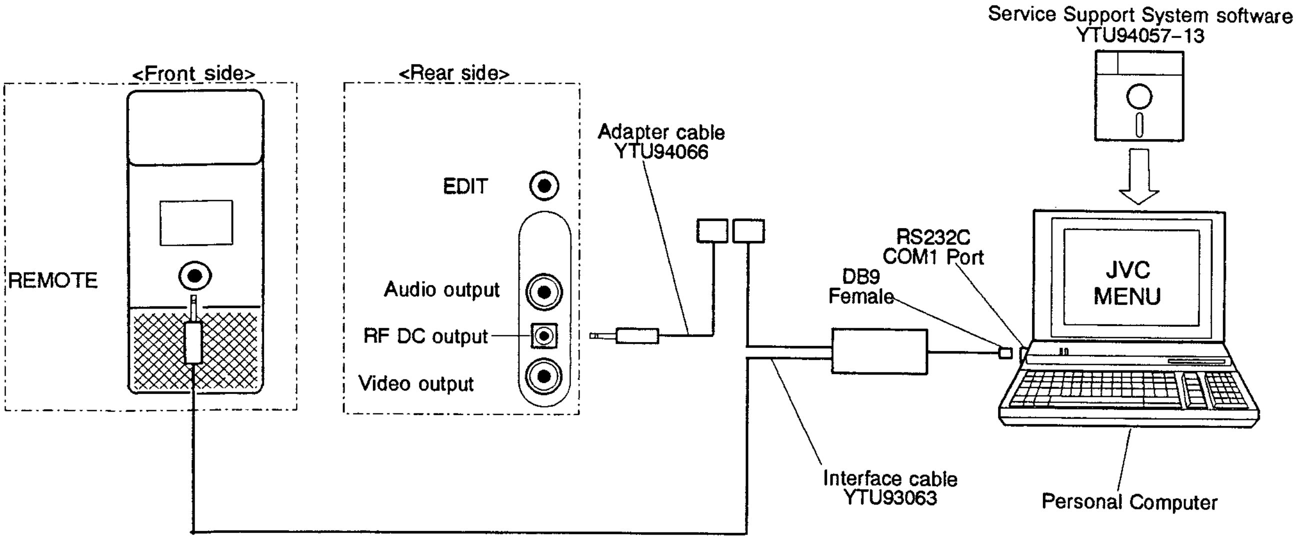

Service Support System software
YTU94057-13
<Front side>
<Rear side>
REMOTE
EDIT
Audio output
RF DC output
Video output
Adapter cable
YTU94066
RS232C
COM1 Port
DB9
Female
JVC
MENU
Interface cable
YTU93063
Personal Computer

Fig. 3-1-1 Connections for Service support system

■ CIRCUIT PROTECTOR AND BATTERY TERMINAL LOCATION FOR REAR BOARD

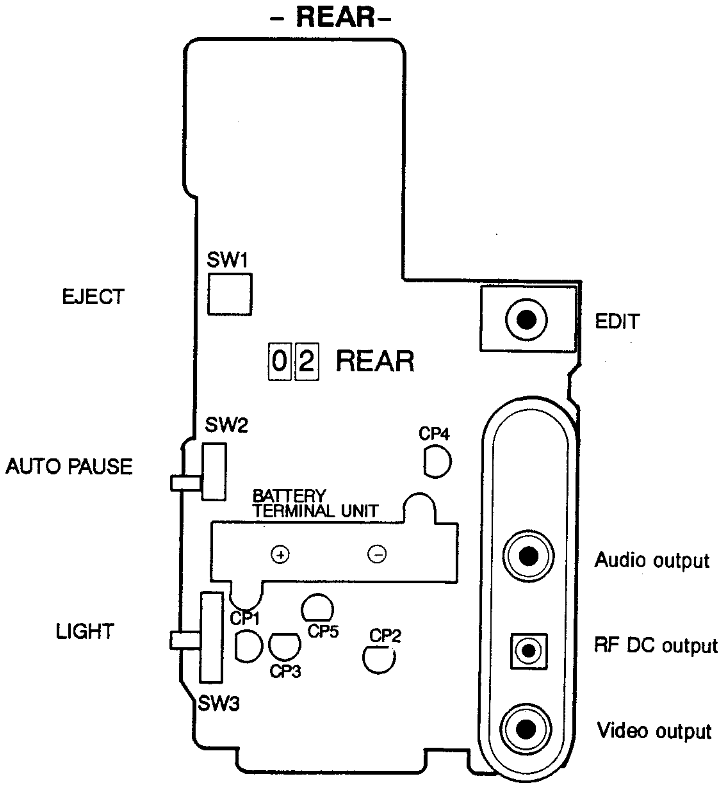

- REAR-
EJECT
SW1
EDIT
02 REAR
SW2
CP4
AUTO PAUSE
BATTERY
TERMINAL UNIT
+
−
Audio output
LIGHT
CP1
CP5
CP2
CP3
RF DC output
SW3
Video output

Fig. 3-1-2 Circuit protector and battery terminal location for REAR board assembly

■ ADJUSTMENT ELEMENT LOCATION FOR DECK SECTION

- MAIN-

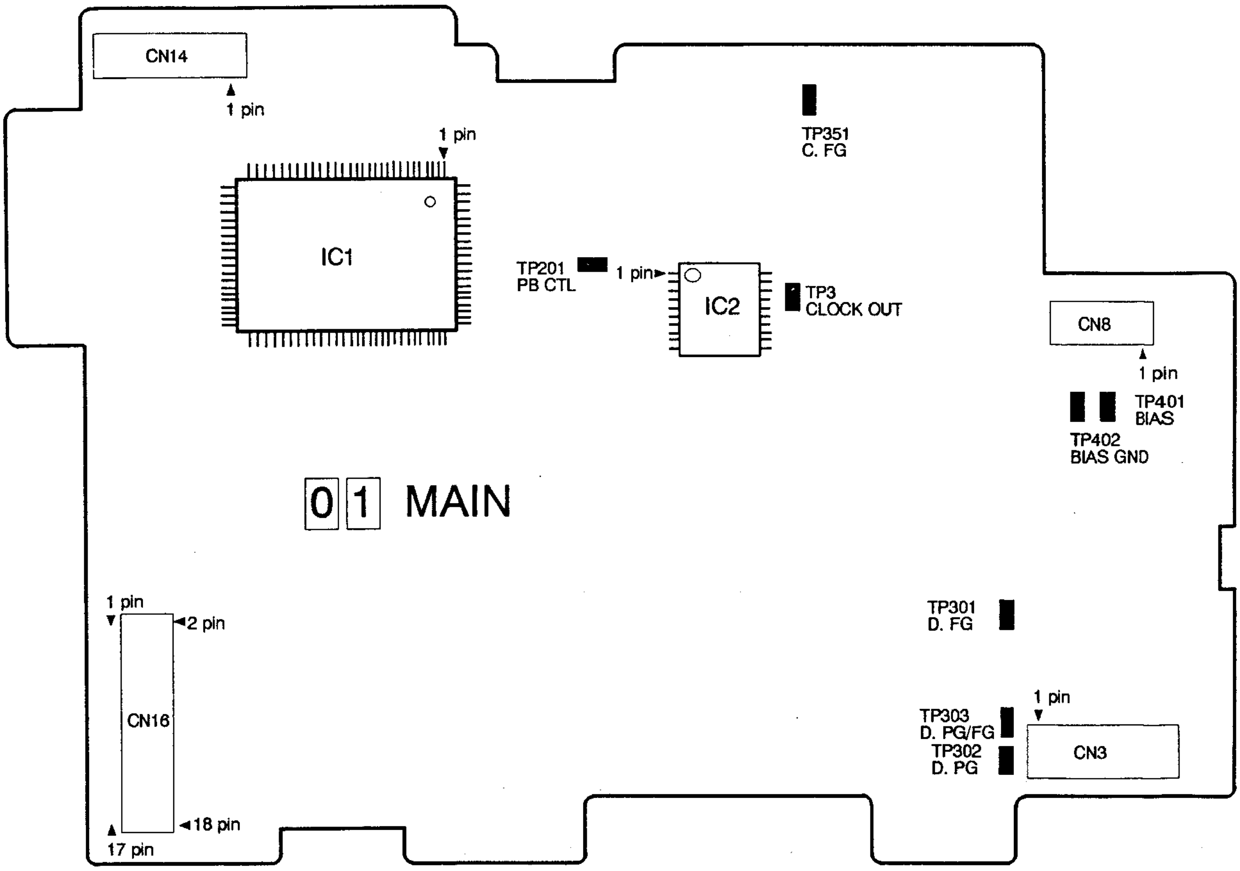

CN14
1 pin
1 pin
TP351
C. FG
IC1
TP201
PB CTL
1 pin
IC2
TP3
CLOCK OUT
CN8
1 pin
TP401
BIAS
TP402
BIAS GND
0 1 MAIN
1 pin
2 pin
CN16
18 pin
17 pin
TP301
D. FG
1 pin
TP303
D. PG/FG
TP302
D. PG
CN3

Fig. 3-1-3 Adjustment element location for MAIN board assembly

■ ADJUSTMENT ELEMENT LOCATION FOR CAMERA SECTION

- CCD-

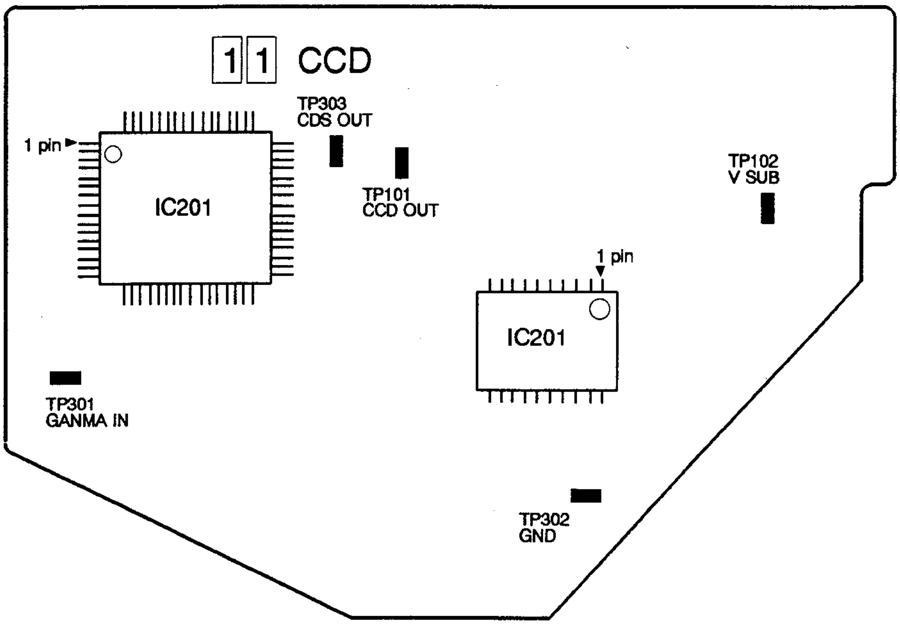

1 1 CCD
TP303
CDS OUT
1 pin
IC201
TP101
CCD OUT
TP102
V SUB
1 pin
IC201
TP301
GANMA IN
TP302
GND

Fig. 3-1-4 Adjustment element location for CCD board assembly

- PROCESS-

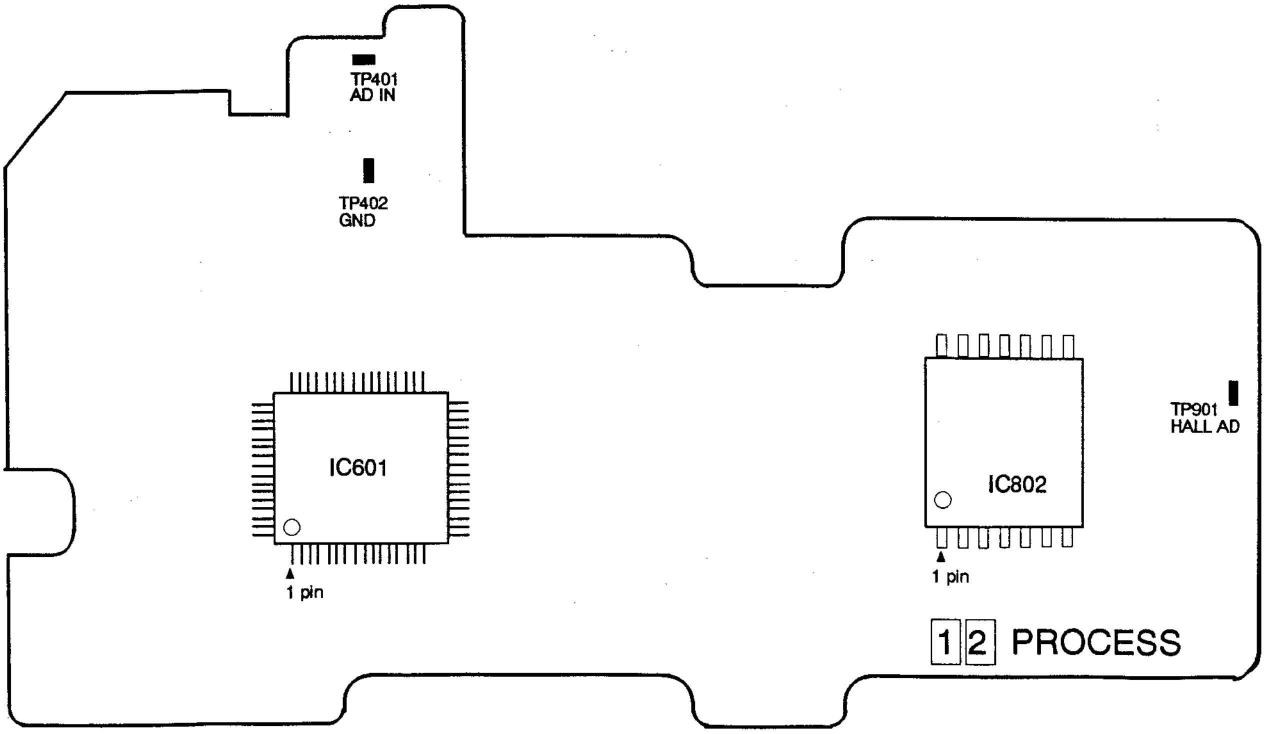

TP401
AD IN
TP402
GND
IC601
1 pin
IC802
1 pin
TP901
HALL AD
1 2 PROCESS

Fig. 3-1-5 Adjustment element location for PROCESS board assembly

■ ADJUSTMENT ELEMENT LOCATION FOR COLOR VIEWFINDER SECTION

— PBL —

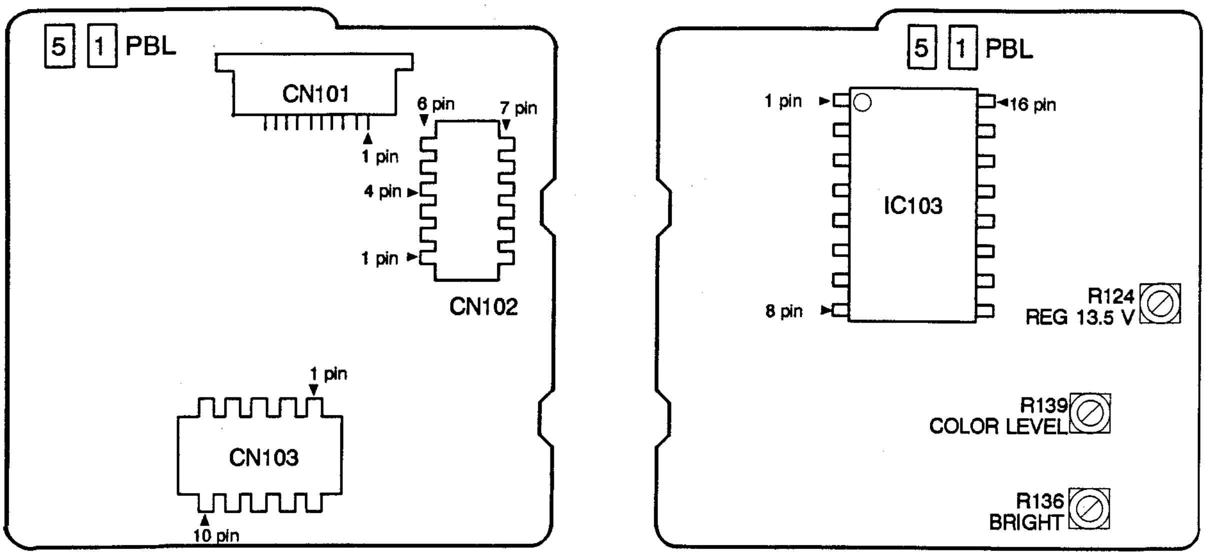

5 1 PBL
CN101
1 pin
6 pin
7 pin
4 pin
1 pin
CN102
1 pin
CN103
10 pin
5 1 PBL
1 pin
16 pin
IC103
8 pin
R124
REG 13.5 V
R139
COLOR LEVEL
R136
BRIGHT

Fig. 3-2-1 Adjustment element location for PBL board assembly

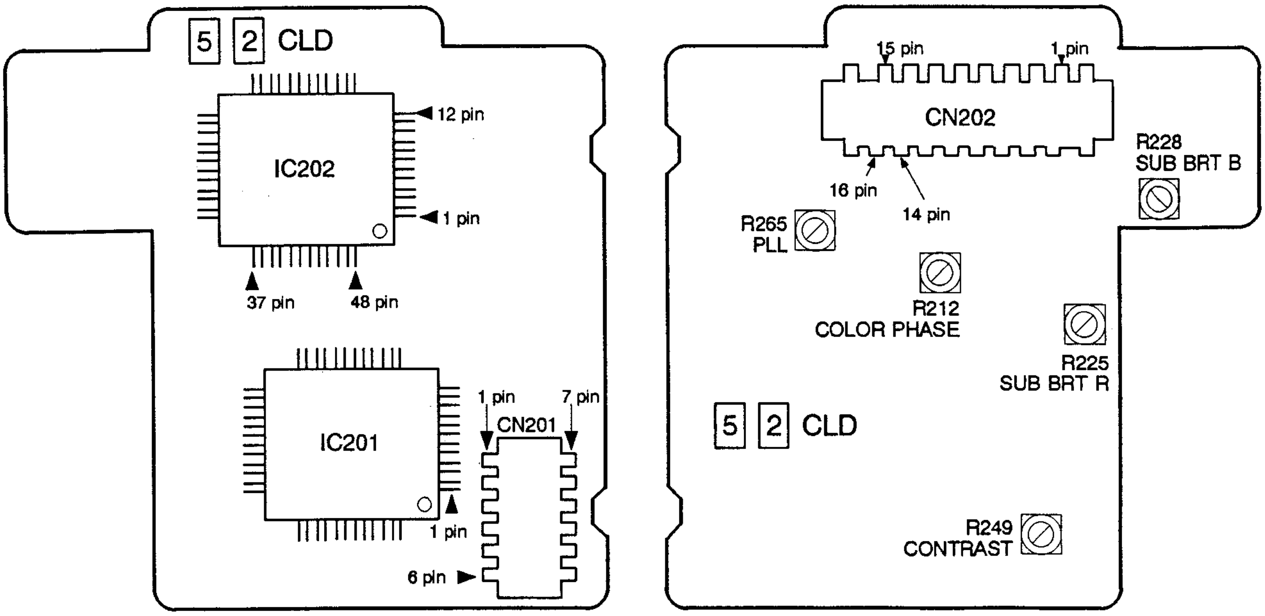

5 2 CLD
IC202
12 pin
1 pin
37 pin
48 pin
IC201
1 pin
7 pin
CN201
1 pin
6 pin
15 pin
1 pin
CN202
16 pin
14 pin
R228
SUB BRT B
R265
PLL
R212
COLOR PHASE
R225
SUB BRT R
5 2 CLD
R249
CONTRAST

Fig. 3-2-2 Adjustment element location for CLD board assembly

3.2 COLOR VIEWFINDER SECTION ADJUSTMENT (For GR-AX900U)

Notes: *Unless otherwise specified, all measurement points and adjustment parts are located on CLD board.*

3.2.1 REG 13.5 V

Subject	•–
Mode	•EE
Equipment	•Digital voltmeter
Measurement point	•CN102 pin 4 〔PBL board〕
Adjustment part	•R124 (REG 13.5 V) 〔PBL board〕
Specification	•13.5 ± 0.1 V DC

1) Connect a digital voltmeter to pin 4 of the CN102.
2) Adjust R124 for 13.5 V DC.

3.2.2 PLL

Subject	•–
Mode	•EE
Equipment	•Oscilloscope
Measurement point	•IC202 pin 37
Adjustment part	•R265 (PLL)
Specification	•"A" = 3.2 ± 0.1 V DC

1) Observe waveform at pin 37 of the IC202.
2) Adjust R265 so that DC level of "A" (between the waveform center and GND, see Fig. 3-2-3) of a waveform becomes 3.2 V DC.

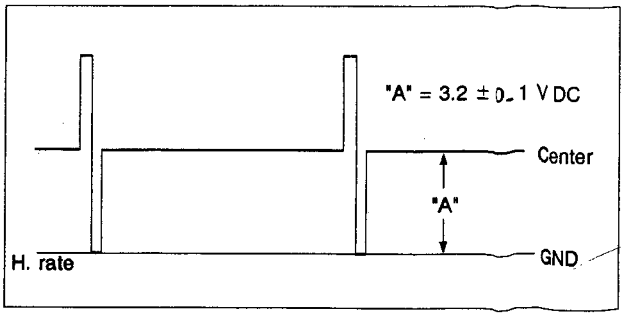

"A" = 3.2 ± 0.1 V DC
Center
"A"
H. rate
GND

Fig. 3-2-3 PLL

3.2.3 Brightness

Subject	•Alignment tape [MHP-C] •SP stairstep
Mode	•PB
Equipment	•Oscilloscope
Measurement point	•CN202 pin 14 (G OUT)
Adjustment part	•R136 (BRIGHT) [PBL board]
Specification	•"A" = 8.0 ± 0.1 Vp-p

1) Observe waveform at pin 14 of CN202.
2) Adjust R136 so that level of "A" (see Fig. 3-2-4) of a waveform becomes 8.0 Vp-p.

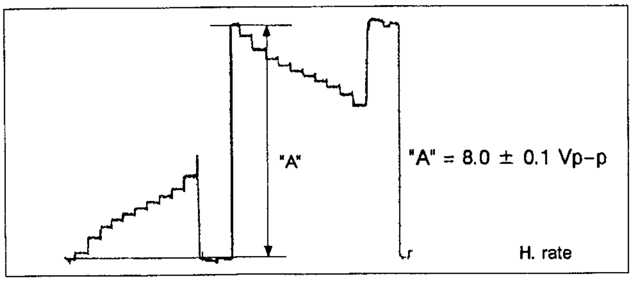


Fig. 3-2-4 Brightness

3.2.4 Contrast

Subject	•Alignment tape [MHP-C] •SP stairstep
Mode	•PB
Equipment	•Oscilloscope
Measurement point	•CN202 pin 14 (G OUT)
Adjustment part	•R249 (CONTRAST)
Specification	•"A" = 2.3 ± 0.1 Vp-p

1) Observe waveform at pin 14 of CN202.
2) Adjust R249 so that level of "A" (see Fig. 3-2-5) of a waveform becomes 2.3 Vp-p.

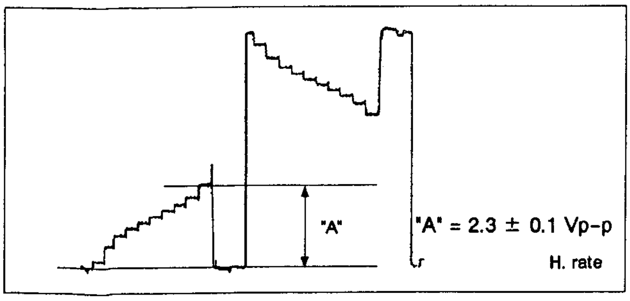


Fig. 3-2-5 Contrast

3.2.5 White balance-1

Subject	•Alignment tape [MHP-C] •SP stairstep
Mode	•PB
Equipment	•Oscilloscope
Measurement point	•CN202 pin 14 (G OUT) •CN202 pin 13 (R OUT)
Adjustment part	•R225 (SUB BRT R)
Specification	•Equall level "A" ± 0.1 Vp-p

1) Connect the oscilloscope to pin 14 of CN202.
2) Observe waveform and make a note of the level as "A" (see Fig. 3-2-6).
3) Connect the oscilloscope to pin 13 of CN202.
4) Adjust R225 so that pin 13 of CN202 level of "A" is equally to pin 14 of CN202 of the noted "A" level.

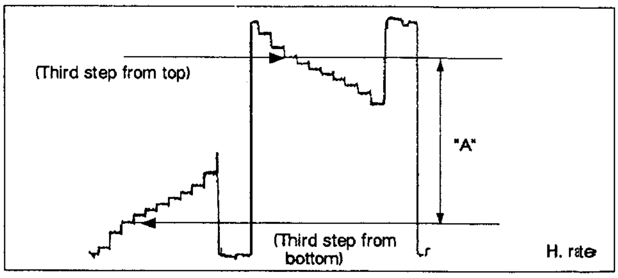


Fig. 3-2-6 White balance-1

3.2.6 White balance-2

Subject	•Alignment tape [MHP-C] •SP stairstep
Mode	•PB
Equipment	•Oscilloscope
Measurement point	•CN202 pin 14 (G OUT) •CN202 pin 12 (B OUT)
Adjustment part	•R228 (SUB BRT B)
Specification	•Equal level "A" ± 0.1 Vp-p

1) Connect the oscilloscope to pin 14 of CN202.
2) Observe waveform and make a note of the level as "A" (see Fig. 3-2-7).
3) Connect the oscilloscope to pin 12 of CN202.
4) Adjust R228 so that pin 12 of CN202 level of "A" is equally to pin 14 of CN202 of the noted "A" level.

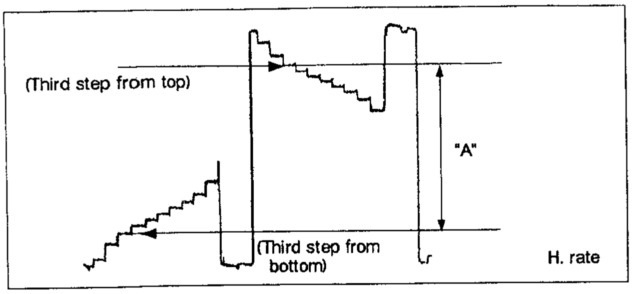


Fig. 3-2-7 White balance-2

3.2.7 Color phase

Subject	•Alignment tape [MHV-2C] •Color bar
Mode	•PB
Equipment	•Oscilloscope
Measurement point	•CN202 pin 12 (B OUT)
Adjustment part	•R212 (COLOR PHASE)
Specification	•Equal level "A" ± 0.1 V (Green and Red)

1) Observe waveform at pin 12 of CN202.
2) Adjust R212 so that level of "A" (between the waveform GND and green level, and between the waveform GND and red level, see Fig. 3-2-8) are equaly.

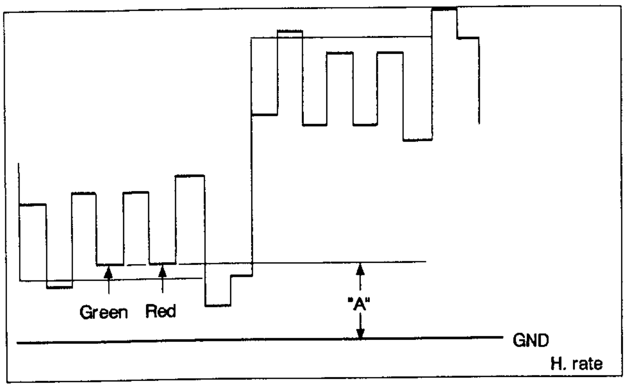


Fig. 3-2-8 Color phase

3.2.8 Color level

Subject	•Alignment tape [MHV-2C] •Color bar
Mode	•PB
Equipment	•Oscilloscope
Measurement point	•CN202 pin 12 (B OUT)
Adjustment part	•R139 (COLOR LEVEL) (PBL board)
Specification	•"A" = 0.2 ± 0.1 Vp-p (Green to Pedestal)

1) Observe waveform at pin 12 of CN202.
2) Adjust R139 so that level of "A" (between the waveform pedestal and green level of negative waveform, see Fig. 3-2-9) of a waveform becomes 0.2 Vp-p.

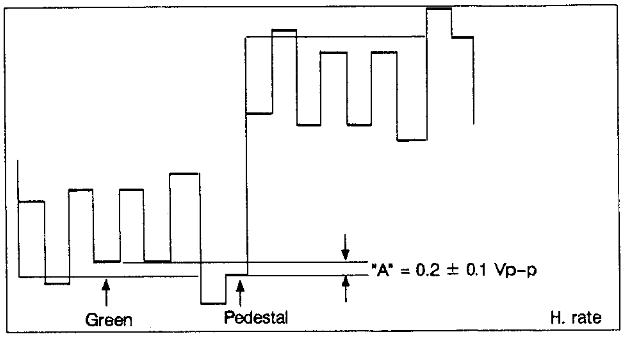


Fig. 3-2-9 Color level

Note: *Confirm that both adjustment results of the item (No.7 'Color phase' and No.8 'Color level') are satisfactory. If not, repeat the two adjustment alternately until they meet the specifications respectively.*

3.3 ELECTRONIC VIEWFINDER (E. VF) ADJUSTMENT (For GR-AX800U)

Note: *Unless otherwise specified, all measurement points and adjustment parts are located on E. VF board.*

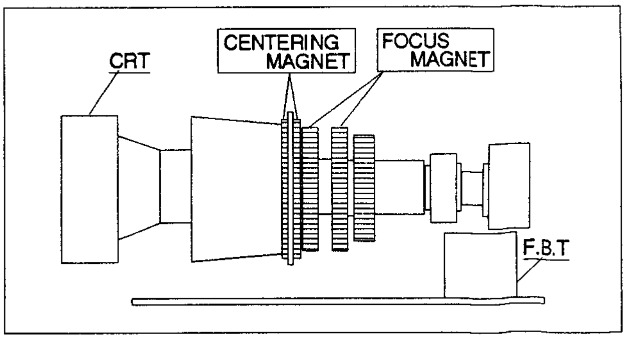


Fig. 3-3-1 E. VF

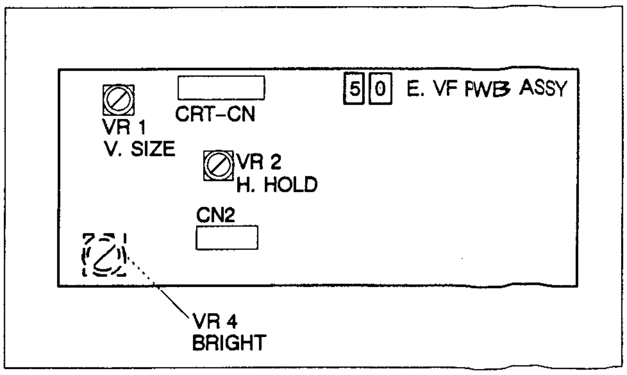


Fig. 3-3-2 E. VF board

3.3.1 Horizontal sync.

Subject	•Alignment tape [MHP-C] •SP stairstep
Mode	•PB
Equipment	•E. VF
Measurement point	•E. VF screen
Adjustment part	•VR2 (H. HOLD)
Specification	•The midpoint of the two markings

1) Observing the viewfinder screen, turn VR2 fully clockwise to make the picture unstable.
2) Slowly return VR2 cunterclockwise to find a point where the picture becomes stable, and mark this position.
3) Turn VR2 fully counterclockwise to make the picture unstable in the same manner as 1) above.
4) Slowly return VR2 clockwise until the picture becomes stable, and mark this position of VR1.
5) Finally set VR2 to the midpoint between the two markings of 2) and 4).

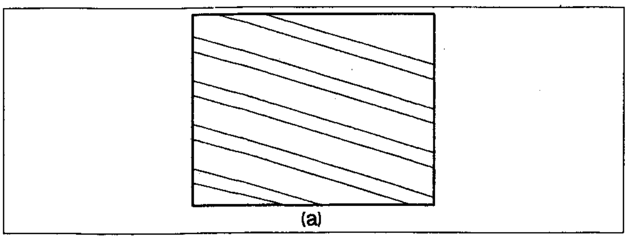

(a)

Fig. 3-3-3 Horizontal sync.1

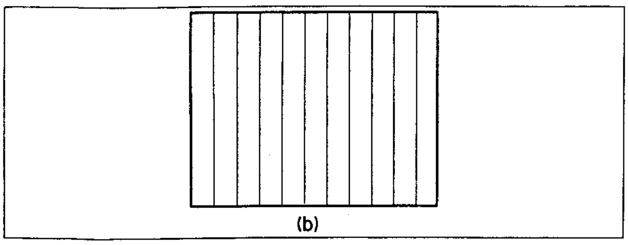

(b)

Fig. 3-3-4 Horizontal sync.2

3.3.2 Vertical scanning

Subject	•Alignment tape [MHP-C] •SP stairstep
Mode	•PB
Equipment	•E. VF
Measurement point	•E.VF screen
Adjustment part	•VR1 (V. SIZE)
Specification	•Normal picture amplitude

1) Observing the viewfinder screen, adjust VR1 for normal picture amplitude.

3.3.3 Centering

Subject	•Alignment tape [MHP-C] •SP stairstep
Mode	•PB
Equipment	•E. VF
Measurement point	•E.VF screen
Adjustment part	•Centering magnet 〔CRT assy〕
Specification	•The center of the E. VF screen

1) While observing the viewfinder screen, adjust the centering magnet to locate the stairstep in the center of the viewfinder screen.

3.3.4 Focus

Subject	•Alignment tape [MHP-C] •SP stairstep
Mode	•PB
Equipment	•E. VF
Measurement point	•E. VF screen
Adjustment part	•Focus magnet 〔CRT assy〕
Specification	•The center area is clear and defined

1) While observing the viewfinder screen, adjust the focus magnet for the deflecting yoke so that the image in the central area of the stairstep screen is clear and defined.

3.3.5 Brightness

Subject	• –
Mode	•EE •Lens closed
Equipment	•E. VF
Measurement point	•E. VF screen
Adjustment part	•VR4 (BRIGHT)
Specification	•The CRT raster is just barely visible

1) Close the lens with the cap and adjust VR4 so that the raster of the CRT is just visible in the E. VF.

SECTION 4
CHARTS AND DIAGRAMS

SCHEMATIC DIAGRAM NOTES

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufactures recommended parts.

1. Schematic diagram values

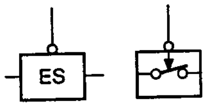
Unless otherwise specified.

1) All resistance values are in ohms. 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K: KΩ (1000Ω), M: MΩ (1000KΩ)
2) All capacitance values are in µF, (P: PF).
3) All inductance values in µH, (m: mH).
4) All diodes are 1SS133 or MA165, (refer to parts list).

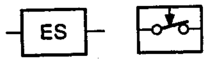
2. Indications

AUX : Active only at high.

$\overline{\text{AUX}}$: Active only at low.



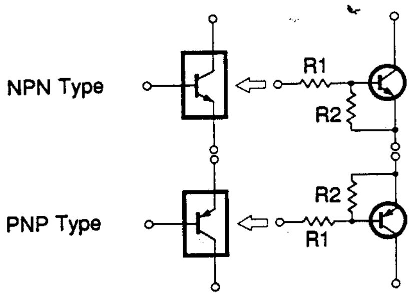
Active only at low for electronic switch.



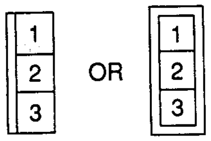
Active only at high for electronic switch.

Digital transistor :

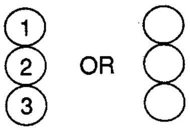
The digital transistor includes built in resistors.
It features small size and high reliability.



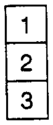
3. Interpreting Connector indications



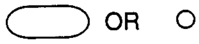
Removable connector



Direct connection on board



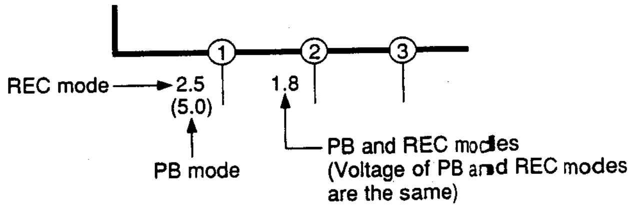
Non-removable Board connector



Connected pattern on board

4. Voltage measurement

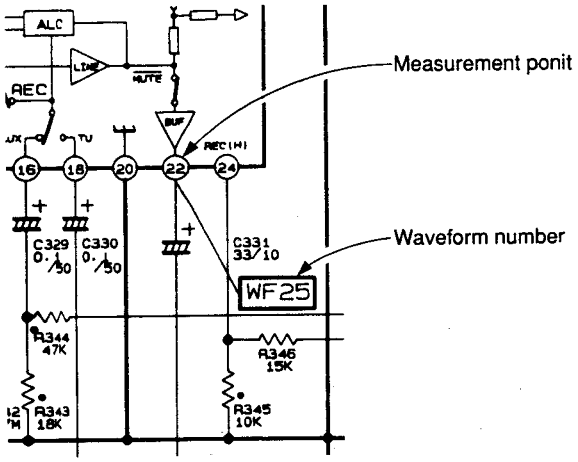
1) Video circuits
   REC: Colour bar signal in SP mode, normal VHS mode.
   PB : Alignment tape, colour bar SP mode, normal VHS mode.
   — : Unmeasurable or unnecessary to measure.
2) Audio circuits
   REC: 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode.
   PB : REC then playback it.
3) Movie Camera circuits
   Measured using a correctly illuminated grey scale or colour bar test charts in the E-E mode.
4) Indication on schematic diagram
   Voltage Indications for REC and PB modes on the schematic diagram are as shown below.



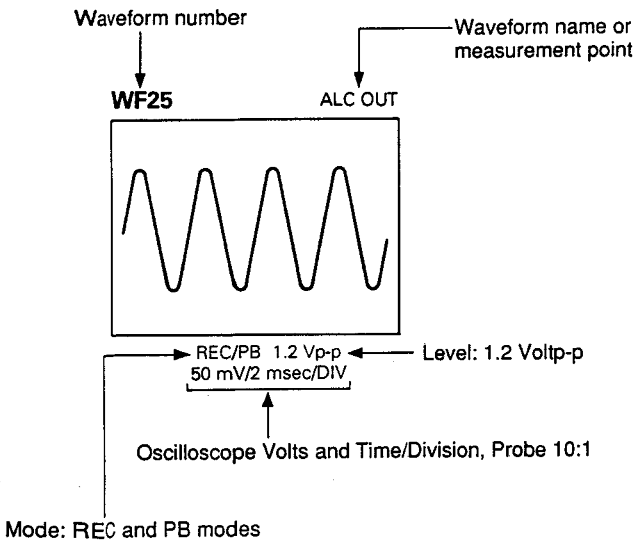
Note: If do not indicate for voltage measurement on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   REC: Colour bar signal in SP mode, normal VHS mode.
   PB : Alignment tape, colour bar SP mode, normal VHS mode.
2) Audio circuits
   REC: 1KHz, −8 dBs sine wave signal in SP mode, normal VHS mode.
   PB : REC then playback it.
3) Movie Camera circuits
   Measured using a correctly illuminated grey scale or colour bar test charts in the E-E mode.
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.


ALC
REC
LINE
MUTE
BUF
REC(H)
16
18
20
22
24
C329 0.1/50
C330 0.1/50
C331 33/10
WF25
R344 47K
R343 18K
R346 15K
R345 10K
Measurement ponit
Waveform number

5) Waveform indications


Waveform number
WF25
ALC OUT
Waveform name or measurement point
REC/PB 1.2 Vp-p
50 mV/2 msec/DIV
Level: 1.2 Voltp-p
Oscilloscope Volts and Time/Division, Probe 10:1
Mode: REC and PB modes

6. Signal path Symbols

The arrows indicate the signal path as follows.

⇨	Playback signal path
▭▶	Playback and recording signal path
➡	Recording signal path (including E-E signal path)
▬▷	Y signal path
⇨▷	Colour (Chroma) signal path
▭▶▷	R or R-Y signal path
➡▷	B or B-Y signal path
⇨▶	Capstan servo path
▭▶▶	Drum servo path
➡▶	Reel servo path

CIRCUIT BOARD NOTES

1. Colour indications

1) Foil side :
   Foil side patterns are indicated at GREY shading.
2) Component side :
   Component side patterns are indicated at RED shading.

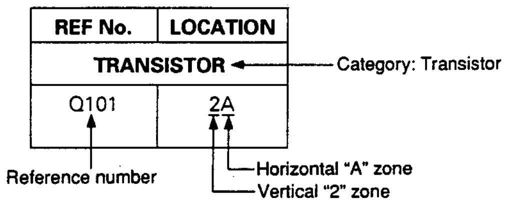
2. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) are indicated.

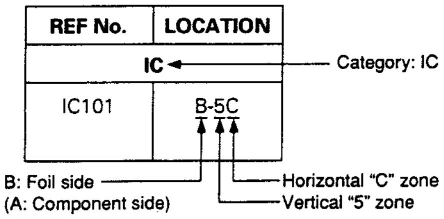
3. Parts location guides

Parts location are indicated by guide scale on the circuit board.

1) Signal pattern :


REF No.
LOCATION
TRANSISTOR
Category: Transistor
Q101
2A
Reference number
Horizontal "A" zone
Vertical "2" zone

2) Double pattern :

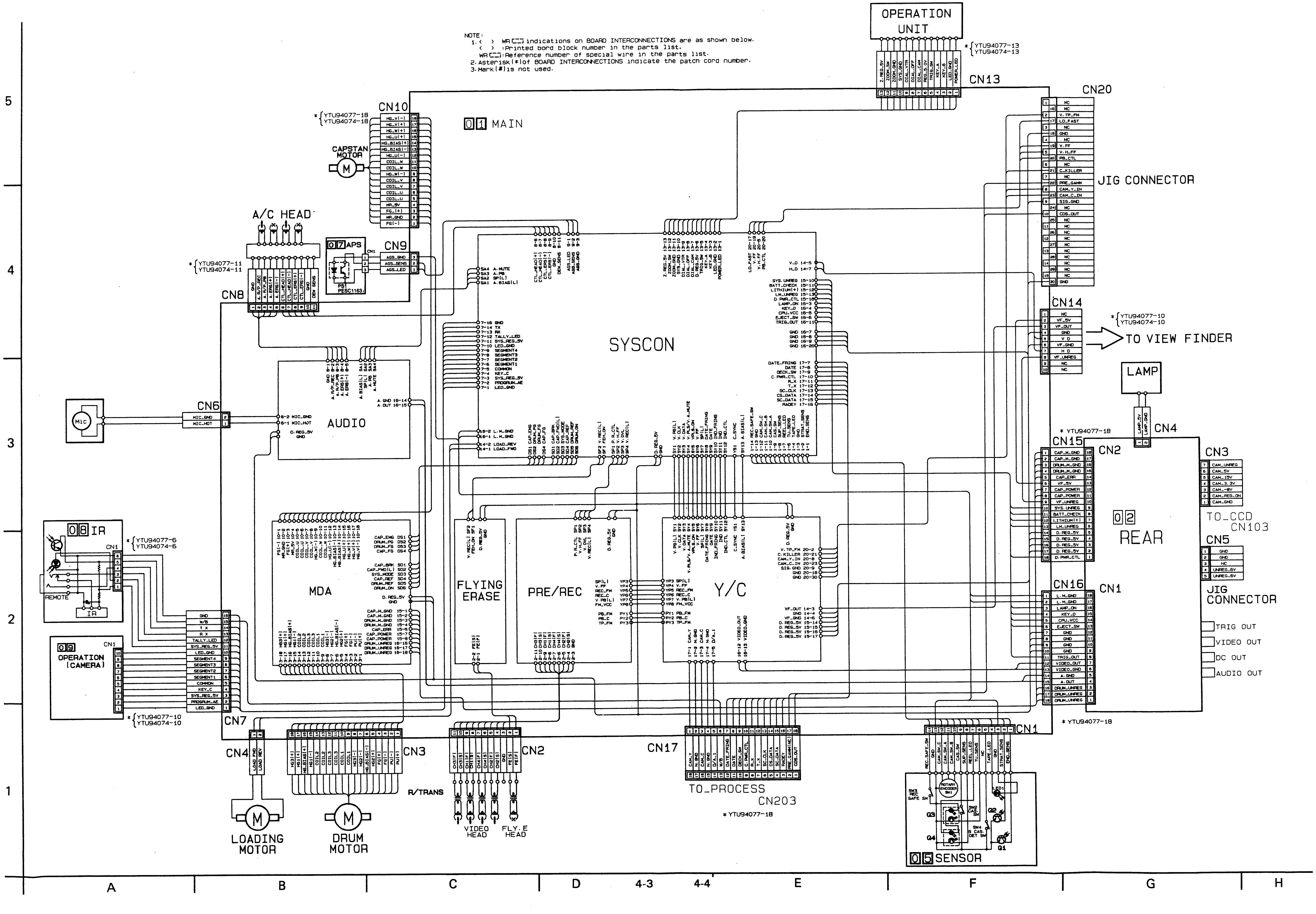

REF No.
LOCATION
IC
Category: IC
IC101
B-5C
B: Foil side
(A: Component side)
Horizontal "C" zone
Vertical "5" zone

Notes:

1) **For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).**
2) **For repairing SMC (Surface Mounted Components), please refer to the VIDEO SERVICE GUIDE No. VTS81001.**

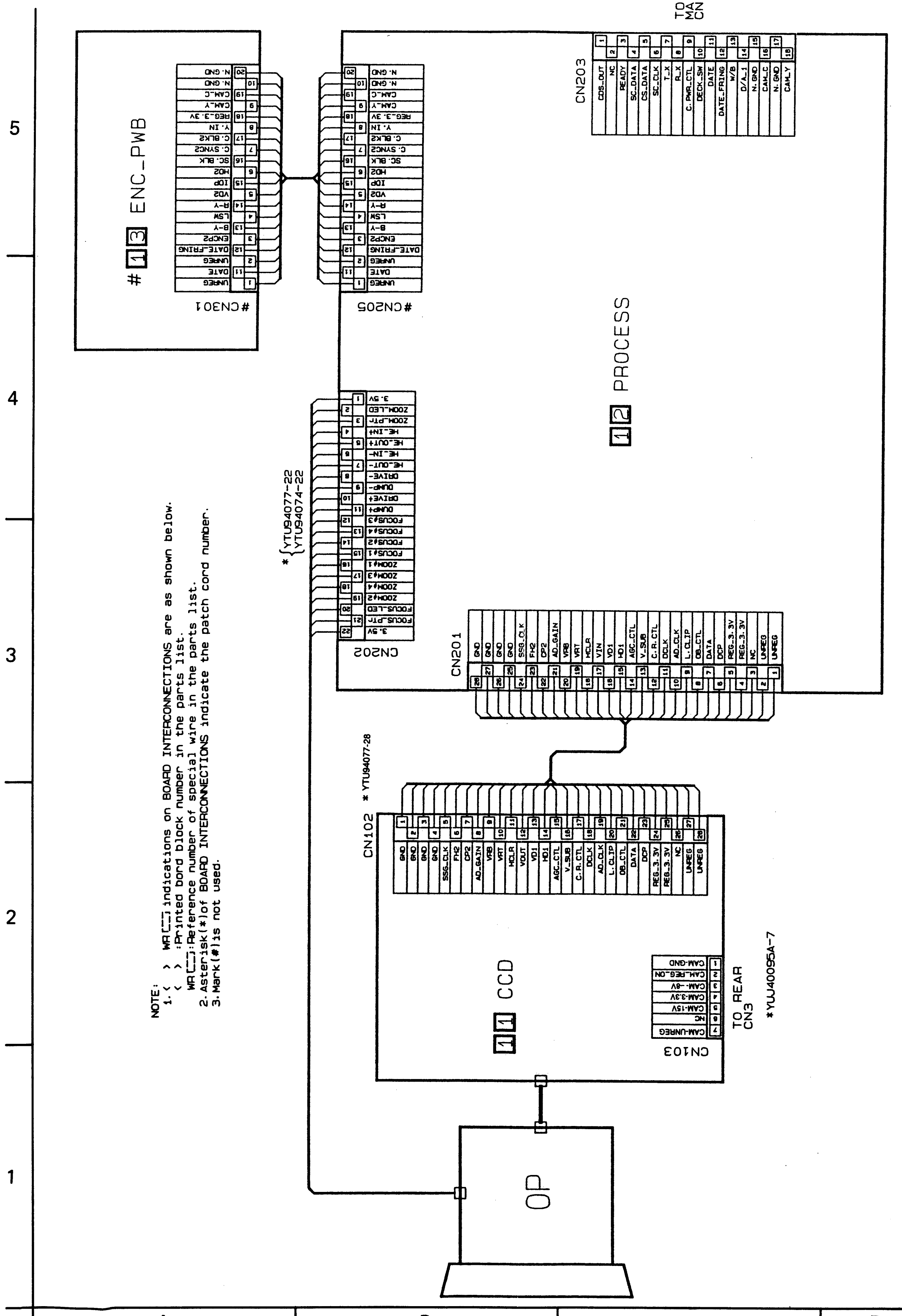
4.1 BOARD INTERCONNECTION (DECK)

NOTE:
1. < > WR[ ] indications on BOARD INTERCONNECTIONS are as shown below.
< > :Printed bord block number in the parts list.
WR[ ]:Reference number of special wire in the parts list.
2. Asterisk(*)of BOARD INTERCONNECTIONS indicate the patch cord number.
3. Mark(#)is not used.



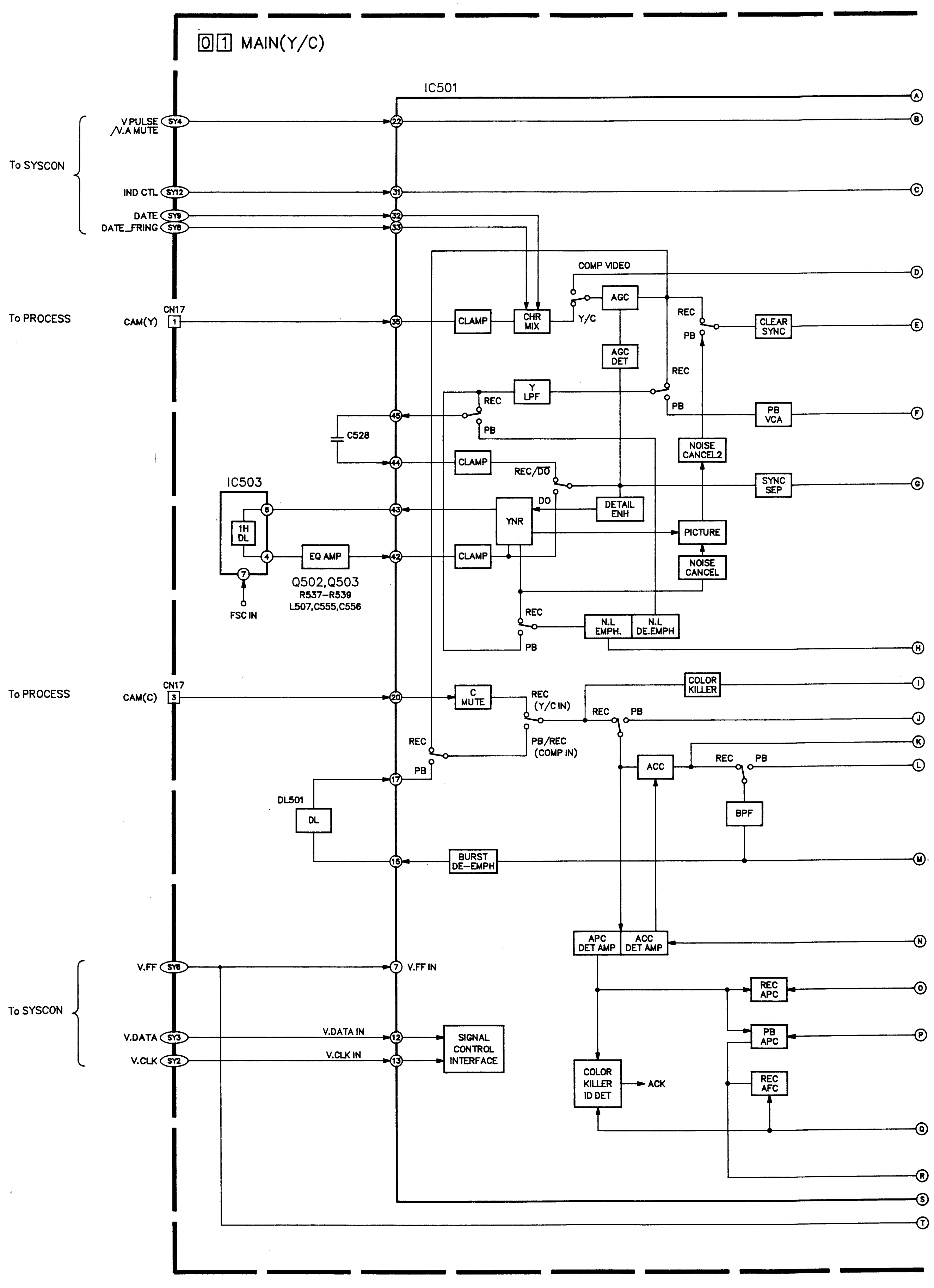
OPERATION UNIT
CN13
* YTU94077-13 / YTU94074-13
CN20
JIG CONNECTOR
01 MAIN
CN10
* YTU94077-18 / YTU94074-18
CAPSTAN MOTOR
A/C HEAD
07 APS
CN9
PS1 PESC1163
CN8
* YTU94077-11 / YTU94074-11
SYSCON
CN14
* YTU94077-10 / YTU94074-10
TO VIEW FINDER
LAMP
CN4
* YTU94077-18
CN15
CN2
CN3
02 REAR
TO_CCD CN103
CN5
JIG CONNECTOR
CN16
CN1
TRIG OUT
VIDEO OUT
DC OUT
AUDIO OUT
* YTU94077-18
MIC
CN6
MIC_GND
MIC_HOT
AUDIO
08 IR
CN1
* YTU94077-6 / YTU94074-6
REMOTE
IR
09 OPERATION (CAMERA)
CN1
* YTU94077-10 / YTU94074-10
CN7
MDA
FLYING ERASE
PRE/REC
Y/C
CN4
CN3
CN2
R/TRANS
LOADING MOTOR
DRUM MOTOR
VIDEO HEAD
FLY.E HEAD
CN17
TO_PROCESS CN203
* YTU94077-18
CN1
05 SENSOR
ROTARY ENCODER SW1
SW3 REC SAFE SW
SW2 CAS. SW
SW4 B CAS. DET SW
LED1
Q1
Q2
Q3
Q4
5
4
3
2
1
A
B
C
D
E
F
G
H

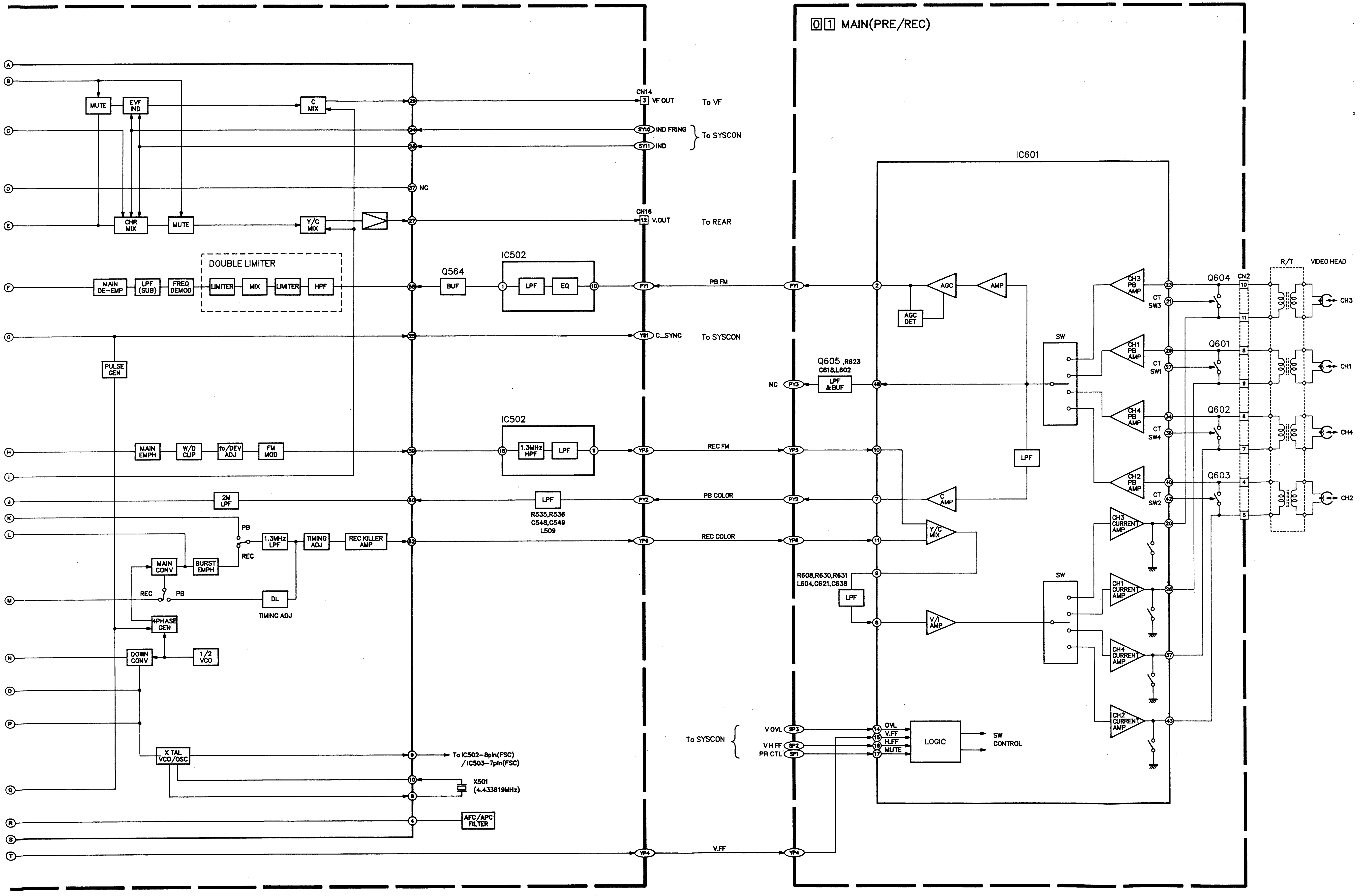
4.2 BOARD INTERCONNECTION (CAMERA)


#13 ENC_PWB
#CN301
#CN205
N_GND
N_GND
CAM_C
CAM_Y
REG_3_3V
Y_IN
C_BLK2
C_SYNC2
SC_BLK
HD2
IDP
VD2
R-Y
LSW
B-Y
ENCP2
DATE_FRING
UNREG
DATE
UNREG
12 PROCESS
CN203
TO MAIN CN17
CDS_OUT
NC
READY
SC_DATA
CS_DATA
SC_CLK
T_X
R_X
C_PWR_CTL
DECK_SW
DATE
DATE_FRING
W/B
D/A_1
N_GND
CAM_C
N_GND
CAM_Y
CN202
3.5V
ZOOM-LED
ZOOM-PTR
HE-IN+
HE-OUT+
HE-IN-
HE-OUT-
DRIVE-
DUMP-
DRIVE+
DUMP+
FOCUS#3
FOCUS#4
FOCUS#2
FOCUS#1
ZOOM#1
ZOOM#3
ZOOM#4
ZOOM#2
FOCUS-LED
FOCUS-PTR
3.5V
* {YTU94077-22 YTU94074-22
CN201
GND
GND
GND
GND
SSG_CLK
FH2
CP2
AD_GAIN
VRB
VRT
MCLR
VIN
VD1
HD1
AGC_CTL
V_SUB
C_R_CTL
DCLK
AD_CLK
L_CLIP
OB_CTL
DATA
DCP
REG_3_3V
REG_3_3V
NC
UNREG
UNREG
* YTU94077-28
CN102
11 CCD
CN103
CAM-GND
CAM-REG-ON
CAM--6V
CAM-3.3V
CAM-15V
NC
CAM-UNREG
TO REAR CN3
*YUJ40095A-7
OP

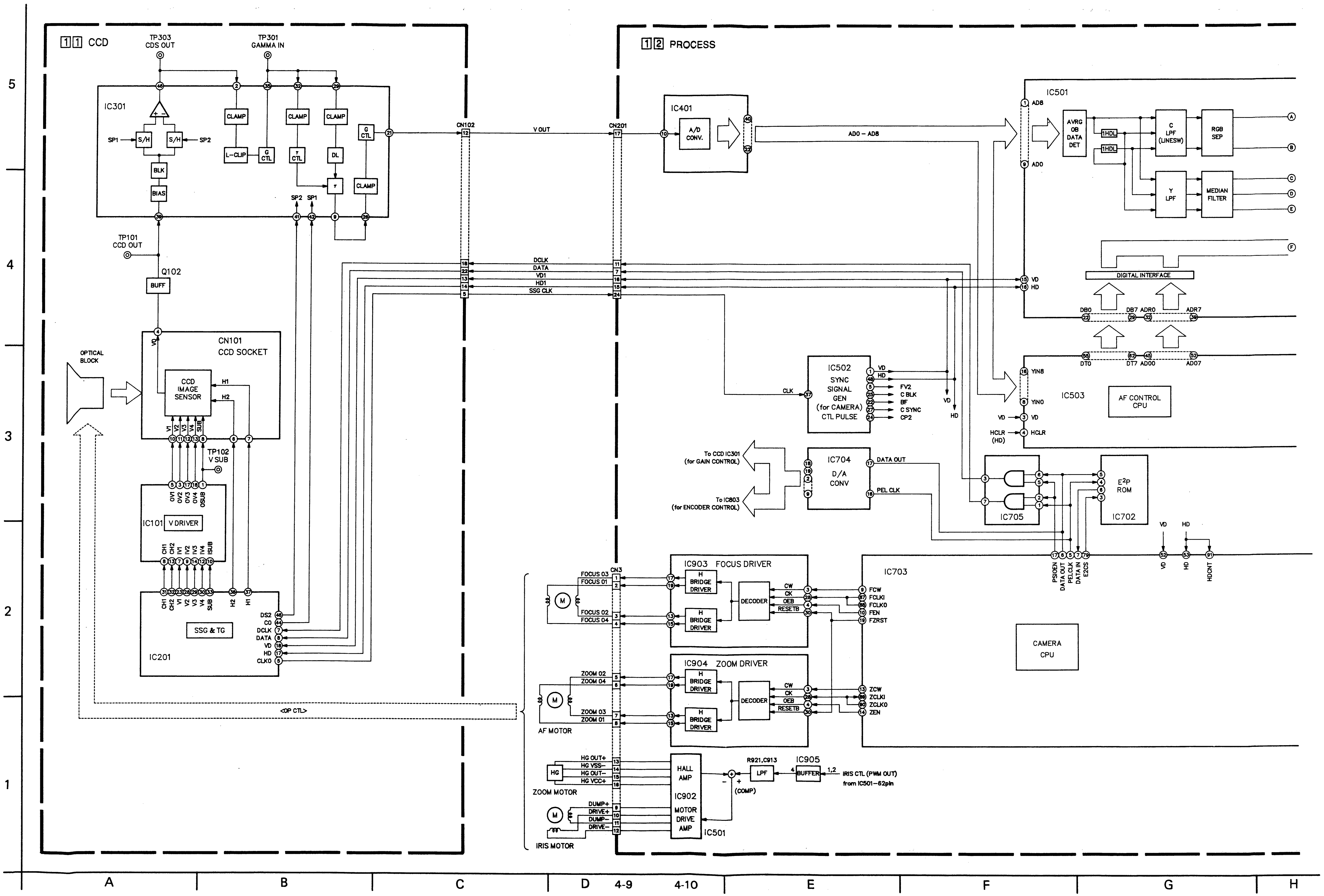
NOTE:
1. ⟨ ⟩ WR[ ] indications on BOARD INTERCONNECTIONS are as shown below.
⟨ ⟩ :Printed bord block number in the parts list.
WR[ ]:Reference number of special wire in the parts list.
2. Asterisk(*)of BOARD INTERCONNECTIONS indicate the patch cord number.
3. Mark(#)is not used.

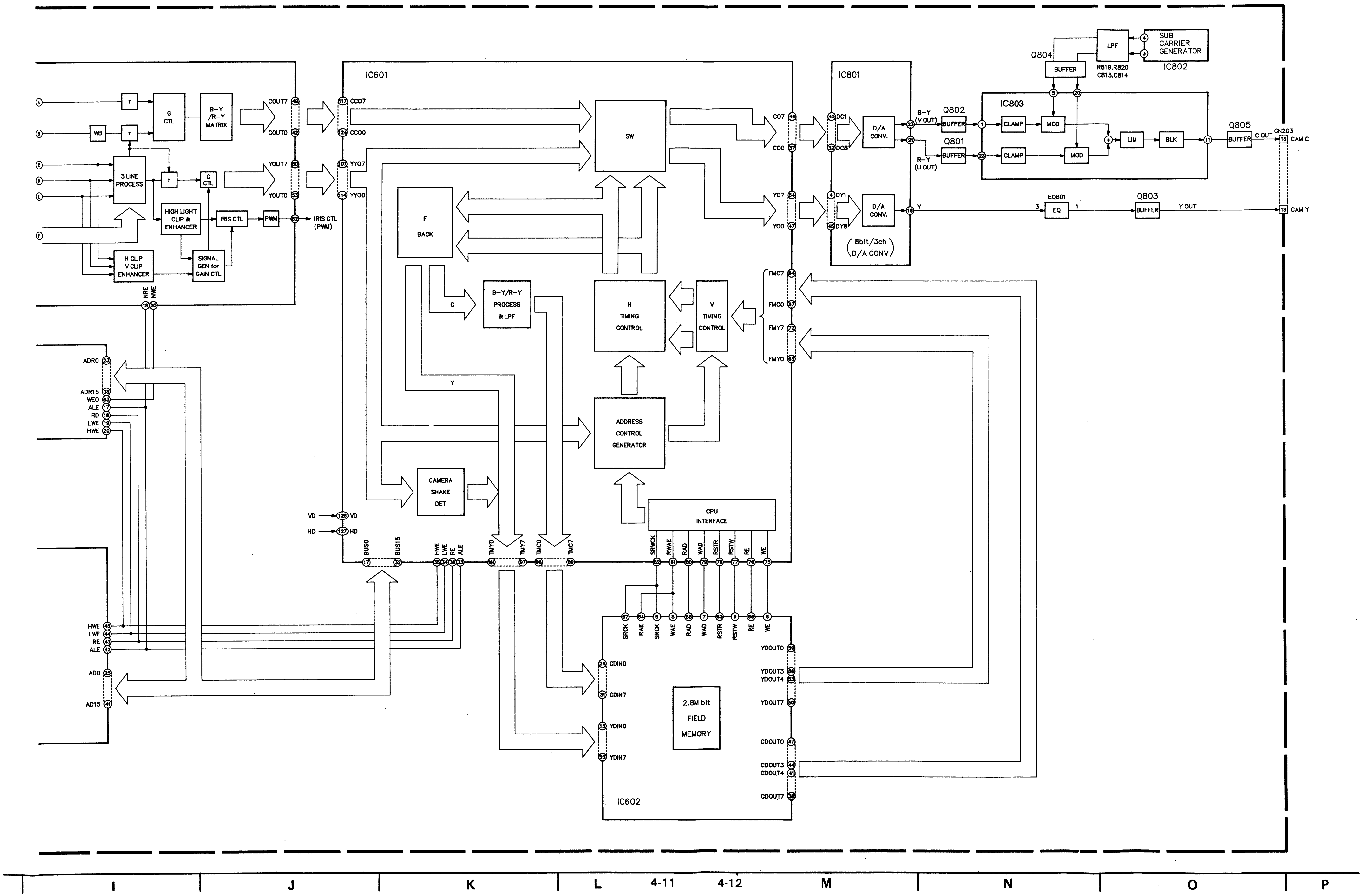
4.3 Y/C BLOCK DIAGRAM


01 MAIN(Y/C)
IC501
To SYSCON
V.PULSE /V.A MUTE SY4
IND CTL SY12
DATE SY9
DATE_FRING SY8
To PROCESS
CN17
CAM(Y) 1
CLAMP
CHR MIX
COMP VIDEO
AGC
Y/C
AGC DET
REC
PB
CLEAR SYNC
Y LPF
PB VCA
C528
NOISE CANCEL2
CLAMP
REC/DO
DO
SYNC SEP
IC503
1H DL
FSC IN
YNR
DETAIL ENH
PICTURE
EQ AMP
CLAMP
NOISE CANCEL
Q502,Q503
R537–R539
L507,C555,C556
N.L EMPH.
N.L DE.EMPH
To PROCESS
CN17
CAM(C) 3
C MUTE
REC (Y/C IN)
PB/REC (COMP IN)
COLOR KILLER
ACC
BPF
DL501
DL
BURST DE-EMPH
APC DET AMP
ACC DET AMP
To SYSCON
V.FF SY6
V.FF IN
V.DATA SY3
V.DATA IN
V.CLK SY2
V.CLK IN
SIGNAL CONTROL INTERFACE
COLOR KILLER ID DET
ACK
REC APC
PB APC
REC AFC
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T

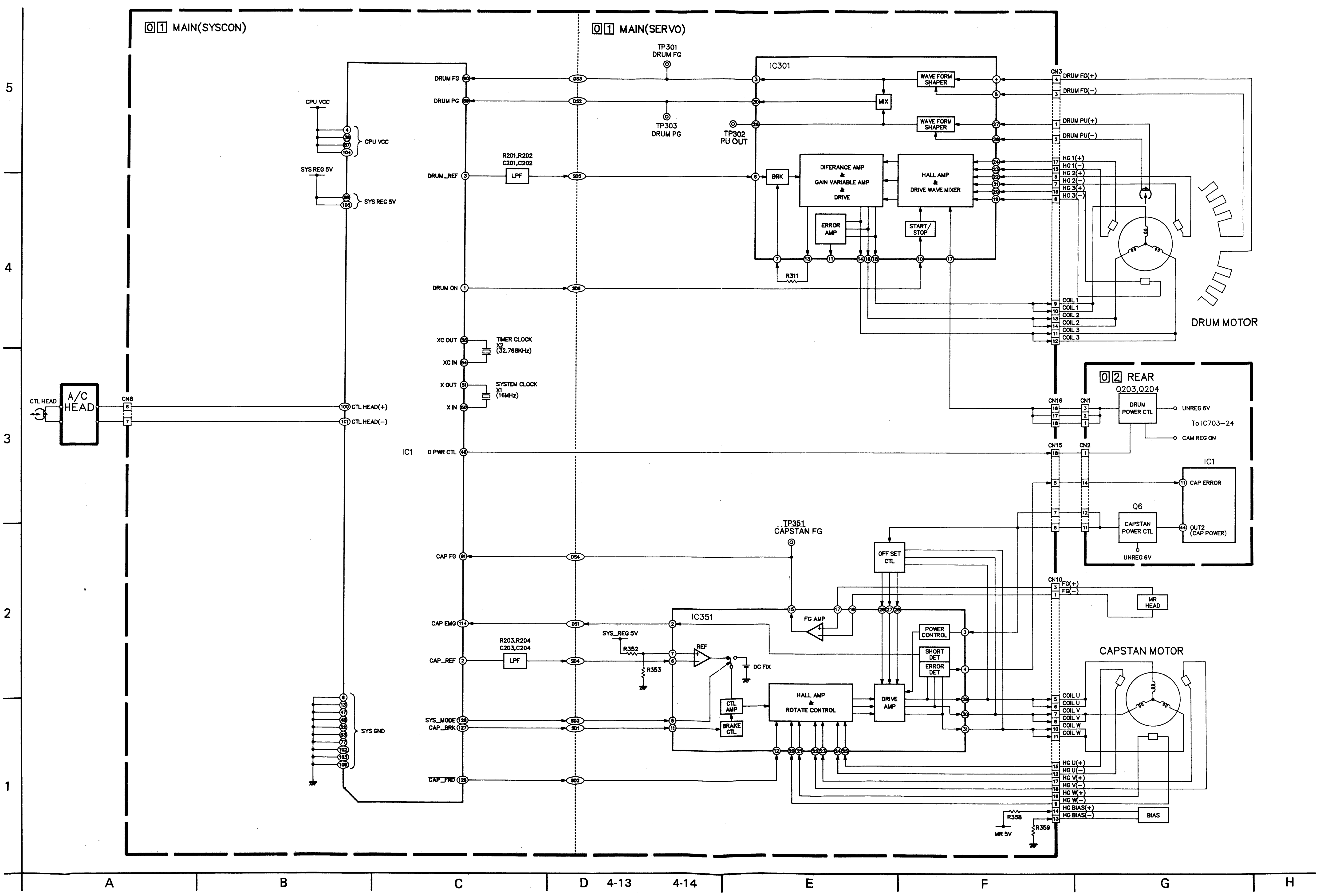

01 MAIN(PRE/REC)
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
Q
R
S
T
MUTE
EVF IND
C MIX
CHR MIX
MUTE
Y/C MIX
DOUBLE LIMITER
MAIN DE-EMP
LPF (SUB)
FREQ DEMOD
LIMITER
MIX
LIMITER
HPF
Q564
BUF
IC502
LPF
EQ
PULSE GEN
IC502
1.3MHz HPF
LPF
MAIN EMPH
W/D CLIP
fo/DEV ADJ
FM MOD
2M LPF
LPF
R535,R536
C548,C549
L509
PB
REC
1.3MHz LPF
TIMING ADJ
REC KILLER AMP
MAIN CONV
BURST EMPH
REC
PB
DL
TIMING ADJ
4PHASE GEN
DOWN CONV
1/2 VCO
X TAL VCO/OSC
X501 (4.433619MHz)
AFC/APC FILTER
To IC502-8pin(FSC) /IC503-7pin(FSC)
29
24
28
37
NC
27
58
25
56
60
62
9
10
8
4
CN14
3
VF OUT
To VF
SY10
IND FRING
SY11
IND
To SYSCON
CN16
12
V.OUT
To REAR
PY1
PB FM
YS1
C_SYNC
To SYSCON
YP5
REC FM
PY2
PB COLOR
YP6
REC COLOR
YP4
V.FF
IC601
AGC
AMP
AGC DET
Q605 ,R623
C618,L602
LPF & BUF
NC
PY3
48
2
10
7
11
9
8
LPF
C AMP
Y/C MIX
R608,R630,R631
L604,C621,C638
LPF
V/I AMP
SW
SW
CH3 PB AMP
CH1 PB AMP
CH4 PB AMP
CH2 PB AMP
CT SW3
CT SW1
CT SW4
CT SW2
CH3 CURRENT AMP
CH1 CURRENT AMP
CH4 CURRENT AMP
CH2 CURRENT AMP
23
21
29
27
34
38
40
42
20
26
37
43
Q604
Q601
Q602
Q603
CN2
10
11
8
9
6
7
4
5
R/T
VIDEO HEAD
CH3
CH1
CH4
CH2
To SYSCON
V OVL
SP3
VH FF
SP2
PR CTL
SP1
14
15
16
17
OVL
V.FF
H.FF
MUTE
LOGIC
SW CONTROL
I
J
K
L
M
N
O
P

4.4 CAMERA BLOCK DIAGRAM

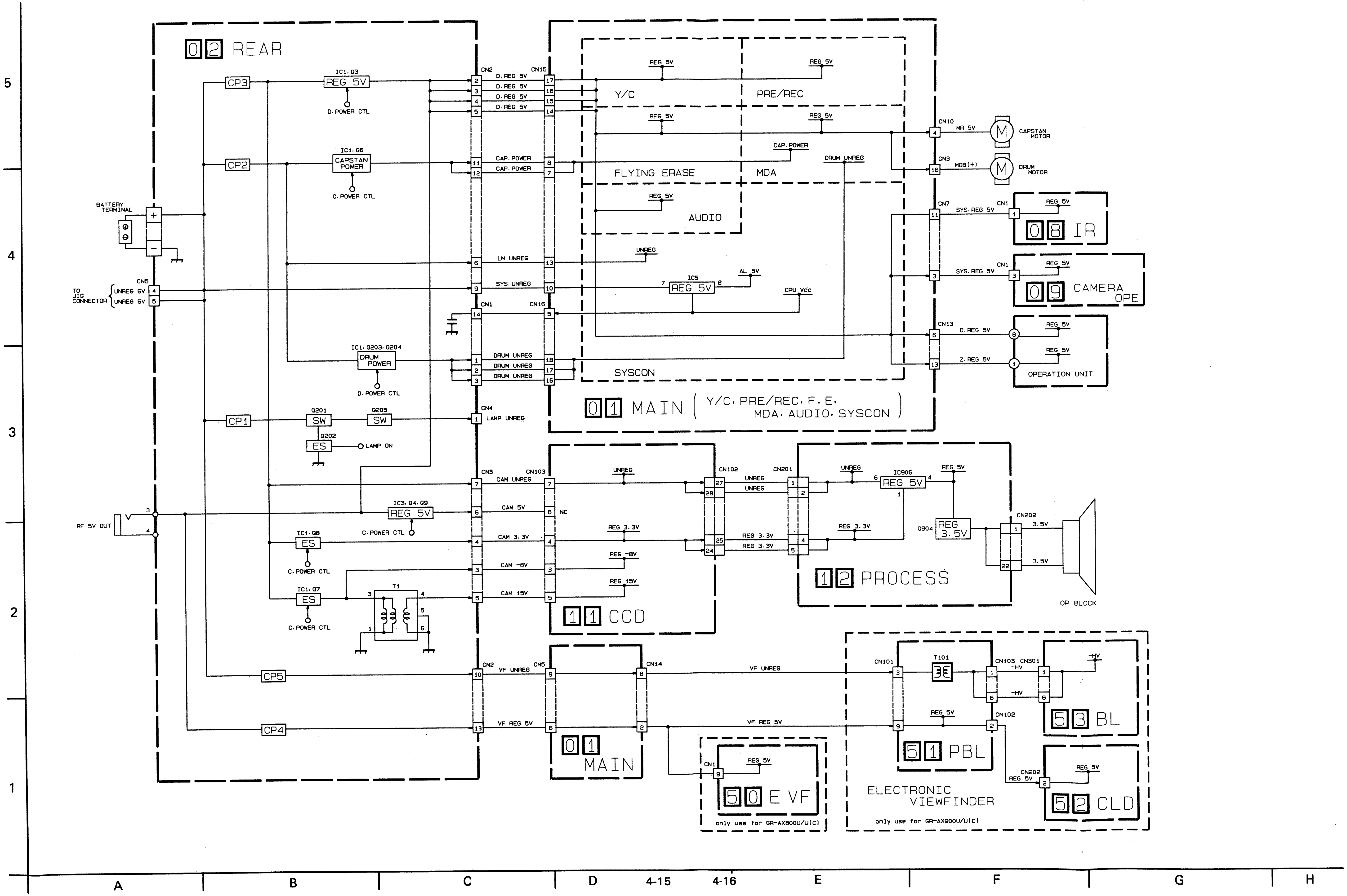

1 1 CCD
TP303 CDS OUT
TP301 GAMMA IN
IC301
SP1
S/H
S/H
SP2
BLK
BIAS
CLAMP
L-CLIP
G CTL
CLAMP
γ CTL
CLAMP
DL
G CTL
γ
CLAMP
SP2 SP1
TP101 CCD OUT
Q102
BUFF
OPTICAL BLOCK
CN101 CCD SOCKET
CCD IMAGE SENSOR
H1
H2
V1 V2 V3 V4 SUB
TP102 V SUB
OV1 OV2 OV3 OV4 OSUB
IC101 V DRIVER
CH1 CH2 IV1 IV2 IV3 IV4 ISUB
CH1 CH2 V1 V2 V3 V4 SUB H2 H1
SSG & TG
IC201
DS2
CO
DCLK
DATA
VD
HD
CLKO
<OP CTL>
CN102
V OUT
DCLK
DATA
VD1
HD1
SSG CLK
CN201
1 2 PROCESS
IC401
A/D CONV.
AD0 – AD8
IC501
AD8
AD0
AVRG OB DATA DET
1HDL
1HDL
C LPF (LINESW)
RGB SEP
Y LPF
MEDIAN FILTER
A
B
C
D
E
F
DIGITAL INTERFACE
VD
HD
DB0
DB7 ADR0
ADR7
DT0
DT7 AD00
AD07
YIN8
YIN0
IC503
AF CONTROL CPU
VD
HCLR (HD)
HCLR
IC502
SYNC SIGNAL GEN (for CAMERA) CTL PULSE
CLK
VD
HD
FV2
C BLK
BF
C SYNC
CP2
VD
HD
To CCD IC301 (for GAIN CONTROL)
To IC803 (for ENCODER CONTROL)
IC704
D/A CONV
DATA OUT
PEL CLK
IC705
E2P ROM
IC702
VD
HD
PSIOEN
DATA OUT
PELCLK
DATA IN
E2CS
VD
HD
HDCNT
IC703
CAMERA CPU
FOCUS 03
FOCUS 01
FOCUS 02
FOCUS 04
CN3
IC903 FOCUS DRIVER
H BRIDGE DRIVER
H BRIDGE DRIVER
DECODER
CW
CK
OEB
RESETB
FCW
FCLKI
FCLKO
FEN
FZRST
ZOOM 02
ZOOM 04
ZOOM 03
ZOOM 01
AF MOTOR
IC904 ZOOM DRIVER
H BRIDGE DRIVER
H BRIDGE DRIVER
DECODER
CW
CK
OEB
RESETB
ZCW
ZCLKI
ZCLKO
ZEN
HG
HG OUT+
HG VSS–
HG OUT–
HG VCC+
ZOOM MOTOR
HALL AMP
IC902
MOTOR DRIVE AMP
IC501
DUMP+
DRIVE+
DUMP–
DRIVE–
IRIS MOTOR
(COMP)
R921,C913
LPF
IC905
BUFFER
IRIS CTL (PWM OUT) from IC501–62pin
5
4
3
2
1
A
B
C
D
E
F
G
H


IC601
IC801
IC802
IC803
IC602
Q804
Q802
Q801
Q805
Q803
SUB CARRIER GENERATOR
LPF
BUFFER
R819,R820 C813,C814
CLAMP
MOD
LIM
BLK
EQ801
EQ
CN203
CAM C
CAM Y
C OUT
Y OUT
B-Y (V OUT)
R-Y (U OUT)
D/A CONV.
(8bit/3ch D/A CONV)
WB
G CTL
B-Y /R-Y MATRIX
3 LINE PROCESS
HIGH LIGHT CLIP & ENHANCER
IRIS CTL
PWM
IRIS CTL (PWM)
H CLIP V CLIP ENHANCER
SIGNAL GEN for GAIN CTL
NRE
NWE
COUT7
COUT0
YOUT7
YOUT0
CC07
CC00
YY07
YY00
SW
F BACK
B-Y/R-Y PROCESS &LPF
H TIMING CONTROL
V TIMING CONTROL
ADDRESS CONTROL GENERATOR
CAMERA SHAKE DET
CPU INTERFACE
C07
C00
Y07
Y00
DC1
DC8
DY1
DY8
FMC7
FMC0
FMY7
FMY0
VD
HD
BUS0
BUS15
HWE
LWE
RE
ALE
TMY0
TMY7
TMC0
TMC7
SRWCK
RWAE
RAD
WAD
RSTR
RSTW
WE
ADR0
ADR15
WE0
RD
AD0
AD15
SRCK
RAE
WAE
CDIN0
CDIN7
YDIN0
YDIN7
YDOUT0
YDOUT3
YDOUT4
YDOUT7
CDOUT0
CDOUT3
CDOUT4
CDOUT7
2.8M bit FIELD MEMORY
C
Y
I
J
K
L
M
N
O
P

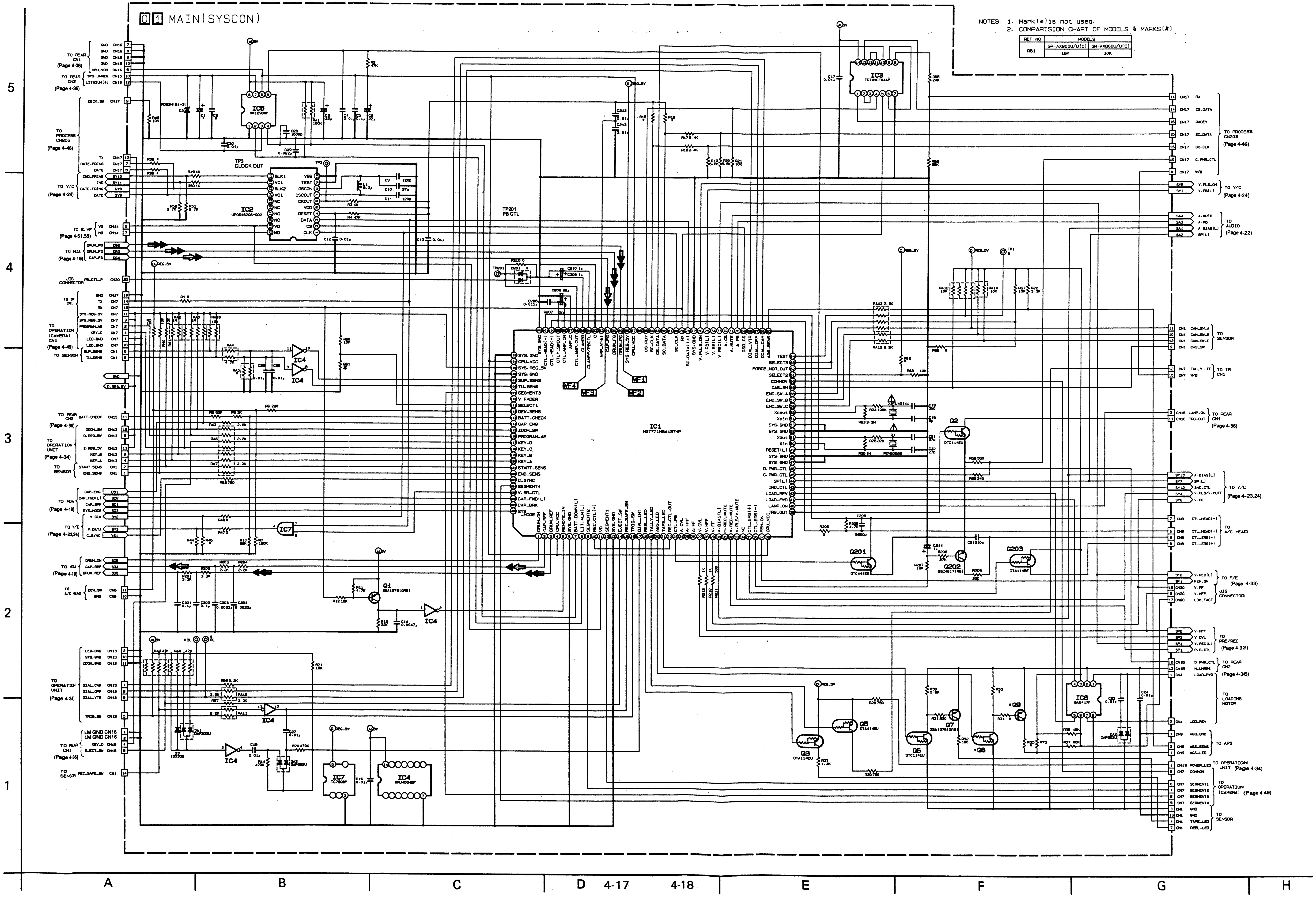
4.5 SYSCON BLOCK DIAGRAM


5
4
3
2
1
A
B
C
D
E
F
G
H
01 MAIN(SYSCON)
01 MAIN(SERVO)
CTL HEAD
A/C HEAD
CN8
8
7
CPU VCC
CPU VCC
SYS REG 5V
SYS REG 5V
DRUM FG
DRUM PG
DRUM_REF
DRUM ON
XC OUT
XC IN
X OUT
X IN
TIMER CLOCK
X2
(32.768KHz)
SYSTEM CLOCK
X1
(16MHz)
CTL HEAD(+)
CTL HEAD(–)
IC1
D PWR CTL
CAP FG
CAP EMG
CAP_REF
SYS_MODE
CAP_BRK
CAP_FRD
SYS GND
R201,R202
C201,C202
LPF
R203,R204
C203,C204
LPF
DS3
DS2
SD5
SD6
DS4
DS1
SD4
SD3
SD1
SD2
TP301
DRUM FG
TP303
DRUM PG
TP302
PU OUT
IC301
WAVE FORM SHAPER
MIX
WAVE FORM SHAPER
BRK
DIFERANCE AMP & GAIN VARIABLE AMP & DRIVE
HALL AMP & DRIVE WAVE MIXER
ERROR AMP
START/ STOP
R311
CN3
DRUM FG(+)
DRUM FG(–)
DRUM PU(+)
DRUM PU(–)
HG 1(+)
HG 1(–)
HG 2(+)
HG 2(–)
HG 3(+)
HG 3(–)
COIL 1
COIL 1
COIL 2
COIL 2
COIL 3
COIL 3
DRUM MOTOR
02 REAR
Q203,Q204
DRUM POWER CTL
UNREG 6V
To IC703–24
CAM REG ON
CN16
CN1
CN15
CN2
IC1
CAP ERROR
Q6
CAPSTAN POWER CTL
OUT2
(CAP POWER)
UNREG 6V
TP351
CAPSTAN FG
OFF SET CTL
FG AMP
IC351
SYS_REG 5V
R352
R353
REF
DC FIX
POWER CONTROL
SHORT DET
ERROR DET
CTL AMP
BRAKE CTL
HALL AMP & ROTATE CONTROL
DRIVE AMP
CN10
FG(+)
FG(–)
MR HEAD
CAPSTAN MOTOR
COIL U
COIL U
COIL V
COIL V
COIL W
COIL W
HG U(+)
HG U(–)
HG V(+)
HG V(–)
HG W(+)
HG W(–)
HG BIAS(+)
HG BIAS(–)
BIAS
R358
MR 5V
R359

4.6 POWER SYSTEM BLOCK DIAGRAM


02 REAR
CP3
IC1, Q3
REG 5V
D. POWER CTL
CN2
CN15
D. REG 5V
D. REG 5V
D. REG 5V
D. REG 5V
CP2
IC1, Q6
CAPSTAN POWER
C. POWER CTL
CAP. POWER
CAP. POWER
BATTERY TERMINAL
TO JIG CONNECTOR
CN5
UNREG 6V
UNREG 6V
LM UNREG
SYS. UNREG
CN1
CN16
IC1, Q203, Q204
DRUM POWER
D. POWER CTL
DRUM UNREG
DRUM UNREG
DRUM UNREG
CP1
Q201
SW
Q205
SW
Q202
ES
LAMP ON
CN4
LAMP UNREG
CN3
CN103
CAM UNREG
IC3, Q4, Q9
REG 5V
C. POWER CTL
CAM 5V
NC
RF 5V OUT
IC1, Q8
ES
C. POWER CTL
CAM 3.3V
CAM -8V
IC1, Q7
ES
C. POWER CTL
T1
CAM 15V
CP5
CP4
VF UNREG
VF REG 5V
CN5
CN14
01 MAIN
Y/C
PRE/REC
REG 5V
FLYING ERASE
MDA
CAP. POWER
DRUM UNREG
AUDIO
UNREG
IC5
REG 5V
AL 5V
CPU Vcc
SYSCON
01 MAIN (Y/C, PRE/REC, F. E., MDA, AUDIO, SYSCON)
CN10
MR 5V
CAPSTAN MOTOR
CN3
MGB(+)
DRUM MOTOR
CN7
SYS. REG 5V
CN1
08 IR
SYS. REG 5V
09 CAMERA OPE
CN13
D. REG 5V
Z. REG 5V
OPERATION UNIT
11 CCD
UNREG
REG 3.3V
REG -8V
REG 15V
CN102
CN201
UNREG
REG 3.3V
IC906
REG 5V
Q904
REG 3.5V
CN202
3.5V
12 PROCESS
OP BLOCK
CN101
T101
CN103
CN301
-HV
CN102
53 BL
51 PBL
VF UNREG
VF REG 5V
CN1
50 E VF
only use for GR-AX800U/U(C)
ELECTRONIC VIEWFINDER
only use for GR-AX900U/U(C)
CN202
REG 5V
52 CLD
5
4
3
2
1
A
B
C
D
E
F
G
H

4.7 SYSCON SCHEMATIC DIAGRAM



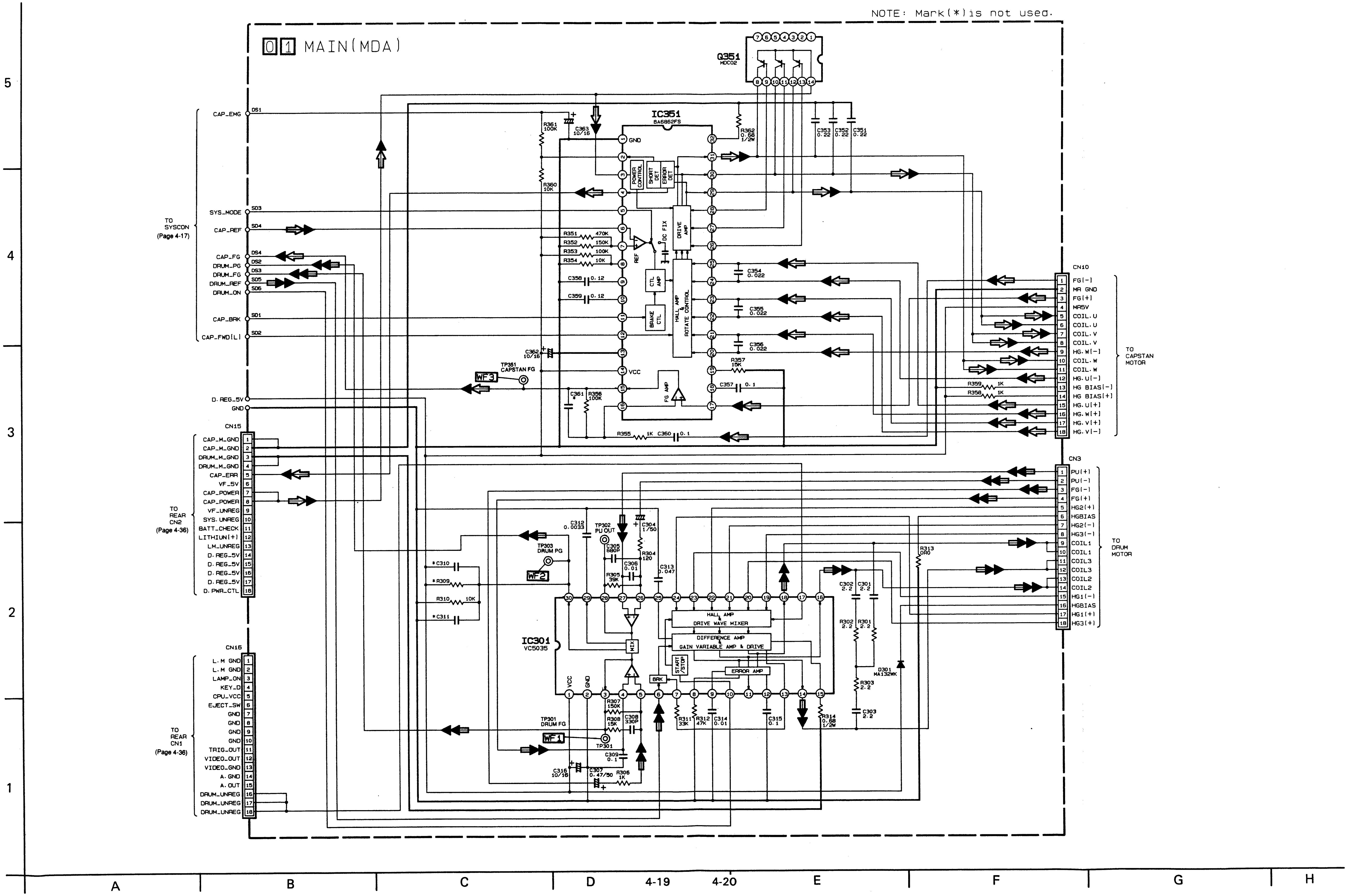
NOTES: 1. Mark(*)is not used.
2. COMPARISION CHART OF MODELS & MARKS(#)

REF. NO	MODELS	
R61	GR-AX900U/U(C)	GR-AX800U/U(C)
	16K	10K

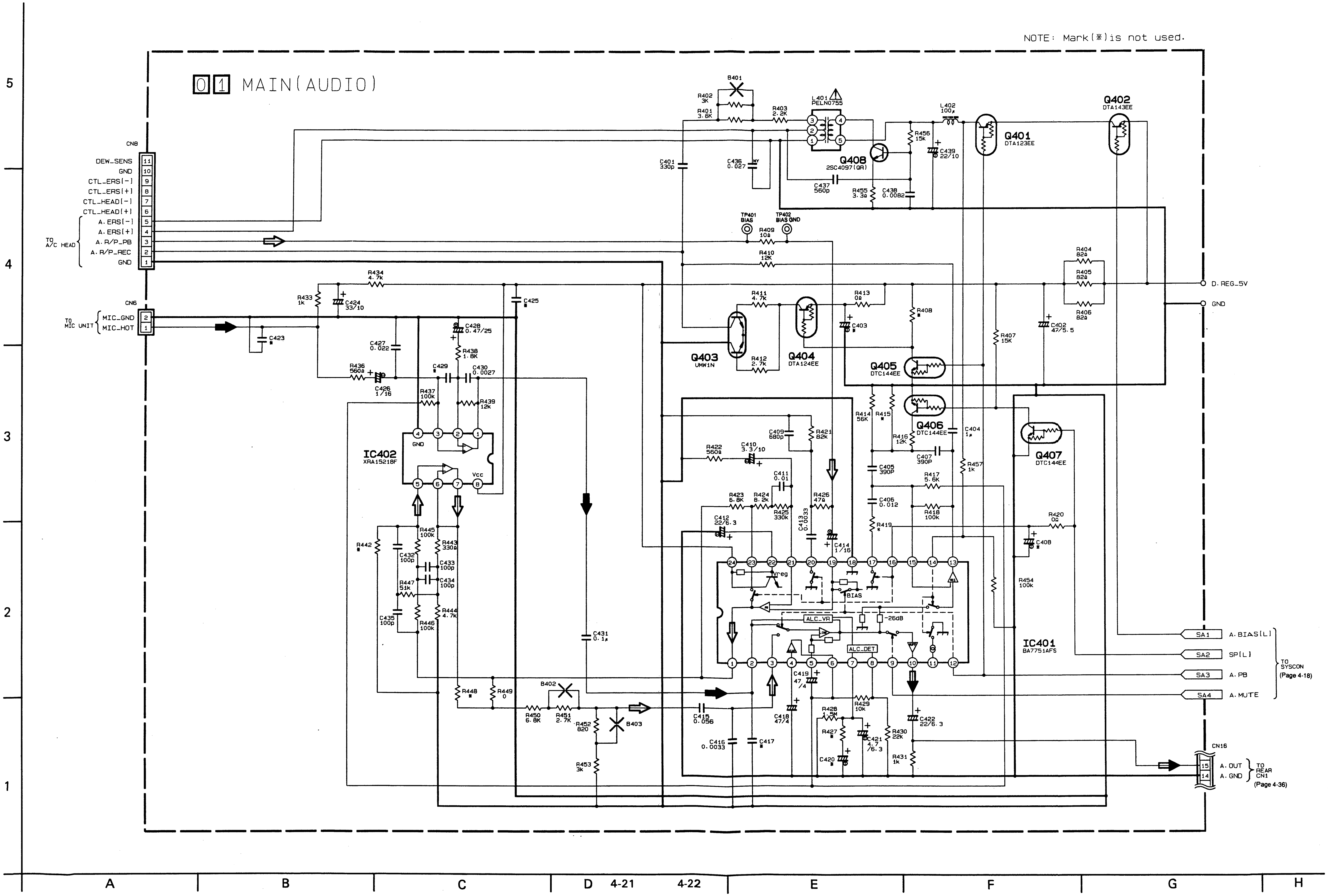
01 MAIN(SYSCON)
IC1 M37771M6A157HP
IC2 UPD6462GS-902
IC3 TC74HCT04AF
IC4 XRU4584BF
IC5 MN1280XF
IC6 BA6417F
IC7 TC7S08F
Q1 2SA1576(QRS)
Q2 DTC114EU
Q3 DTA114EU
Q5 DTA114EU
Q6 DTC114EU
Q7 2SA1576(QRS)
Q201 DTC144EE
Q202 2SC4617(RS)
Q203 DTA114EE
TP3 CLOCK OUT
TP201 PB CTL
TO REAR CN1 (Page 4-36)
TO REAR CN2 (Page 4-36)
TO PROCESS CN203 (Page 4-46)
TO Y/C (Page 4-24)
TO E. VF (Page 4-51,56)
TO HDA (Page 4-19)
JIG CONNECTOR
TO IR CN1
TO OPERATION (CAMERA) CN1 (Page 4-49)
TO SENSOR
TO OPERATION UNIT (Page 4-34)
TO Y/C (Page 4-23,24)
TO A/C HEAD
TO AUDIO (Page 4-22)
TO F/E (Page 4-33)
TO PRE/REC (Page 4-32)
TO LOADING MOTOR
TO APS
TO OPERATION UNIT (Page 4-34)
TO OPERATION (CAMERA) (Page 4-49)
A
B
C
D
E
F
G
H
1
2
3
4
5
4-17
4-18

4.8 MDA SCHEMATIC DIAGRAM

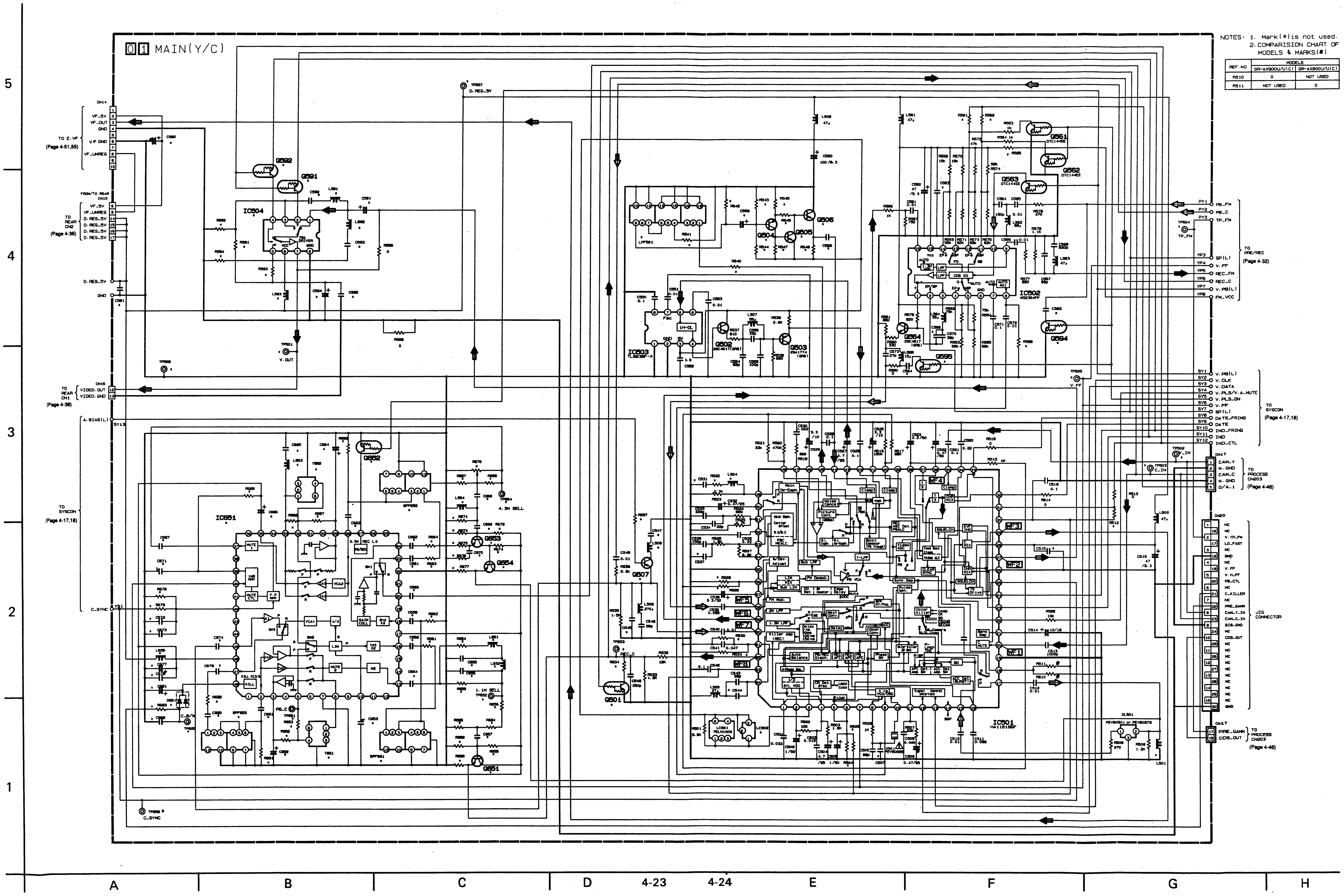
NOTE: Mark(*)is not used.


01 MAIN(MDA)
Q351 MDC02
IC351 BA6862FS
IC301 VC5035
TO SYSCON (Page 4-17)
CAP_EMG
SYS_MODE
CAP_REF
CAP_FG
DRUM_PG
DRUM_FG
DRUM_REF
DRUM_ON
CAP_BRK
CAP_FWD(L)
D.REG_5V
GND
CN15
CAP_M_GND
DRUM_M_GND
CAP_ERR
VF_5V
CAP_POWER
VF_UNREG
SYS.UNREG
BATT_CHECK
LITHIUM(+)
LM_UNREG
D.REG_5V
D.PWR_CTL
TO REAR CN2 (Page 4-36)
CN16
L.M GND
LAMP_ON
KEY_D
CPU_VCC
EJECT_SW
TRIG_OUT
VIDEO_OUT
VIDEO_GND
A.GND
A.OUT
DRUM_UNREG
TO REAR CN1 (Page 4-36)
CN10
FG(-)
MR GND
FG(+)
MR5V
COIL.U
COIL.V
COIL.W
HG.W(-)
HG.U(-)
HG BIAS(-)
HG BIAS(+)
HG.U(+)
HG.W(+)
HG.V(+)
HG.V(-)
TO CAPSTAN MOTOR
CN3
PU(+)
PU(-)
FG(-)
FG(+)
HG2(+)
HGBIAS
HG2(-)
HG3(-)
COIL1
COIL3
COIL2
HG1(-)
HG1(+)
HG3(+)
TO DRUM MOTOR
POWER CONTROL
SHORT DET
ERROR DET
DRIVE AMP
DC FIX
REF
CTL AMP
BRAKE CTL
HALL AMP & ROTATE CONTROL
FG AMP
VCC
TP351 CAPSTAN FG
WF3
TP302 PU OUT
TP303 DRUM PG
WF2
TP301 DRUM FG
WF1
HALL AMP & DRIVE WAVE MIXER
DIFFERENCE AMP
GAIN VARIABLE AMP & DRIVE
ERROR AMP
START /STOP
BRK
MIX
R361 100K
C363 10/16
R350 10K
R351 470K
R352 150K
R353 100K
R354 10K
C358 0.12
C359 0.12
C362 10/16
C361
R356 100K
R355 1K
C360 0.1
R362 0.68 1/2W
C353 0.22
C352 0.22
C351 0.22
C354 0.022
C355 0.022
C356 0.022
R357 15K
C357 0.1
R359 1K
R358 1K
C312 0.0033
C305 680P
C304 1/50
R304 120
C306 0.01
R305 39K
C313 0.047
*C310
*R309
R310 10K
*C311
R307 150K
R308 15K
C308 330P
C309 0.1
C316 10/16
C307 0.47/50
R306 1K
R311 33K
R312 47K
C314 0.01
C315 0.1
R314 0.68 1/2W
R313 0R0
C302 2.2
C301 2.2
R302 2.2
R301 2.2
R303 2.2
C303 2.2
D301 MA132WK
A
B
C
D
E
F
G
H
1
2
3
4
5

4.9 AUDIO SCHEMATIC DIAGRAM


NOTE: Mark(※)is not used.
01 MAIN(AUDIO)
CN8
DEW_SENS
GND
CTL_ERS(-)
CTL_ERS(+)
CTL_HEAD(-)
CTL_HEAD(+)
A.ERS(-)
A.ERS(+)
A.R/P_PB
A.R/P_REC
GND
TO A/C HEAD
CN6
MIC_GND
MIC_HOT
TO MIC UNIT
B401
R402 3K
R401 3.6K
R403 2.2K
L401 PELN0755
L402 100μ
Q401 DTA123EE
Q402 DTA143EE
Q408 2SC4097(QR)
R456 15k
C439 22/10
C437 560p
R455 3.3Ω
C438 0.0082
C401 330p
C436 0.027
TP401 BIAS
TP402 BIAS GND
R409 10Ω
R410 12K
R404 82Ω
R405 82Ω
R406 82Ω
D.REG_5V
GND
R434 4.7k
R433 1k
C424 33/10
C425 ※
C423 ※
C427 0.022
C428 0.47/25
R438 1.8K
R436 560Ω
C426 1/16
C429 ※
C430 0.0027
R437 100k
R439 12k
IC402 XRA15218F
GND
Vcc
R411 4.7K
R412 2.7K
Q403 UMW1N
Q404 DTA124EE
R413 0Ω
C403 ※
R408 ※
R407 15K
C402 47/5.5
Q405 DTC144EE
Q406 DTC144EE
Q407 DTC144EE
R414 56K
R415 ※
R416 12K
C404 1μ
C407 390P
R457 1k
C409 680p
R421 82k
R422 560Ω
C410 3.3/10
C411 0.01
C405 390P
C406 0.012
R417 5.6K
R418 100K
R419 ※
R420 0Ω
C408 ※
R423 6.8K
R424 8.2K
R425 330k
R426 47Ω
C412 22/6.3
C413 0.0033
C414 1/16
R454 100k
Vreg
BIAS
ALC_VR
-26dB
ALC_DET
IC401 BA7751AFS
R442 ※
C432 100p
R445 100k
R443 330Ω
C433 100p
C434 100p
R447 51k
C435 100p
R446 100k
R444 4.7k
C431 0.1μ
R448 ※
R449 0
B402
R450 6.8K
R451 2.7K
R452 820
B403
R453 3k
C415 0.056
C416 0.0033
C417 ※
C419 47/4
C418 47/4
R428 1.5M
R429 10k
R427 ※
C421 4.7/6.3
C420 ※
R430 22k
R431 1k
C422 22/6.3
SA1 A.BIAS(L)
SA2 SP(L)
SA3 A.PB
SA4 A.MUTE
TO SYSCON (Page 4-18)
CN16
A.OUT
A.GND
TO REAR CN1 (Page 4-36)
A
B
C
D
E
F
G
H
1
2
3
4
5

4.10 Y/C SCHEMATIC DIAGRAM



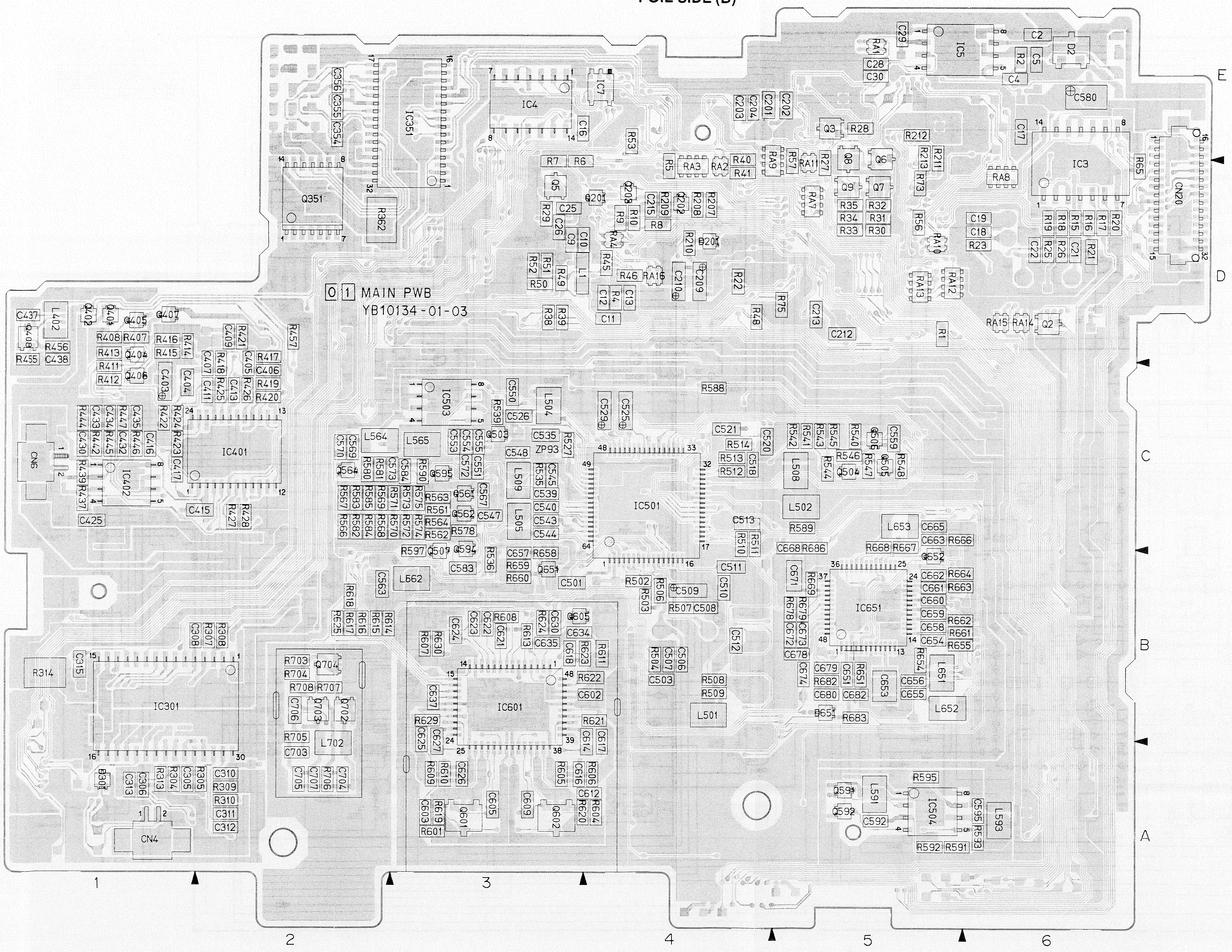
5
4
3
2
1
01 MAIN(Y/C)
CN14
VF_5V
VF_OUT
GND
VF GND
VF_UNREG
TO E.VF (Page 4-51,55)
FROM/TO REAR CN15
VF_5V
VF_UNREG
D.REG_5V
D.REG_5V
D.REG_5V
D.REG_5V
TO REAR CN2 (Page 4-36)
D.REG_5V
GND
CN16
VIDEO.OUT
VIDEO.GND
TO REAR CN1 (Page 4-36)
A.BIAS(L)
SY13
TO SYSCON (Page 4-17,18)
C.SYNC
SY1
TP667
D.REG_5V
Q592
Q591
IC504
DRIVER
TP501
V.OUT
TP506
IC651
Q652
Q653
Q654
Q651
4.3M BELL
1.1M BELL
PB_C
TP652
BPF652
BPF653
BPF651
TP655
C.SYNC
LPF501
IC503
TL9836F-X
1H-DL
Q502
2SC4617(QRS)
Q503
2SA1774(QRS)
Q504
Q505
Q506
L508
47μ
C560
100/6.3
Q507
Q501
TP553
REC_C
IC501
HA11819BF
DL501
L561
47μ
Q561
DTC144EE
Q562
DTC144EE
Q563
DTC144EE
IC502
HD2364FP
Q564
2SC4617(QRS)
Q565
Q594
TP504
TP_FM
TP505
V.FF
TP502
Y_IN
TP503
C_IN
PY1
PB_FM
PY2
PB_C
PY3
TP_FM
YP3
SP(L)
YP4
V.FF
YP5
REC_FM
YP6
REC_C
YP7
V.PB(L)
YP8
FM_VCC
TO PRE/REC (Page 4-32)
SY1
V.PB(L)
SY2
V.CLK
SY3
V.DATA
SY4
V.PLS/V.A_MUTE
SY5
V.PLS_ON
SY6
V.FF
SY7
SP(L)
SY8
DATE_FRING
SY9
DATE
SY10
IND_FRING
SY11
IND
SY12
IND_CTL
TO SYSCON (Page 4-17,18)
CN17
CAM_Y
N.GND
CAM_C
N.GND
D/A_1
TO PROCESS CN203 (Page 4-46)
CN20
NC
NC
V.TP_FM
LO_FAST
NC
GND
NC
V.FF
V.H_FF
PB_CTL
NC
C_KILLER
NC
PRE_GAMM
CAM_Y_IN
CAM_C_IN
SIG_GND
NC
CDS_OUT
NC
NC
NC
NC
NC
NC
NC
NC
GND
JIG CONNECTOR
CN17
PRE_GAMM
CDS_OUT
TO PROCESS CN203 (Page 4-46)
A
B
C
D
E
F
G
H

NOTES: 1. Mark(*)is not used.
2. COMPARISION CHART OF MODELS & MARKS(#)

REF.NO	MODELS	
	GR-AX900U/U(C)	GR-AX800U/U(C)
R510	0	NOT USED
R511	NOT USED	0

4.11 MAIN CIRCUIT BOARD

FOIL SIDE (B)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IC7
IC351
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R362
IC3
CN20
IC401
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CN6
IC503
IC501
IC651
IC301
IC601
IC504
CN4
L402
L504
L564
L565
L509
L505
L508
L502
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L593
ZP93
Q5
Q3
Q6
Q7
Q8
Q9
Q2
Q601
Q602
Q704
Q703
A
B
C
D
E
1
2
3
4
5
6

PARTS LOCATION GUIDE<MAIN BOARD>

REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION
IC		R13	A-3E	R357	A-2E	R531	A-3C	R660	B-3B	C212	B-5D	C520	B-4C
IC1	A-5D	R14	A-3E	R358	A-2E	R532	A-3C	R661	B-6B	C213	A-5D	C521	B-4C
IC2	A-3D	R15	B-6D	R359	A-2E	R533	A-3C	R662	B-6B	C214	A-4D	C522	A-5C
IC3	B-6D	R16	B-6D	R360	A-3E	R534	A-3C	R663	B-6B	C215	B-4D	C523	A-5C
IC4	B-3E	R17	B-6D	R361	A-3E	R535	B-3C	R664	B-6B	C301	A-1A	C525	B-4C
IC5	B-5E	R18	B-6D	R362	B-2D	R536	B-3B	R666	B-5C	C302	A-1A	C526	B-3C
IC6	A-6D	R19	B-6D	R401	A-1D	R537	A-2C	R667	B-5C	C303	A-1A	C527	A-3C
IC7	B-3E	R20	B-6D	R402	A-1D	R538	A-3C	R668	B-5C	C304	A-2A	C528	A-4C
IC301	B-1B	R21	B-6D	R403	A-1D	R539	B-3C	R669	B-5B	C305	B-1A	C529	B-4C
IC351	B-3E	R22	B-4D	R404	A-2B	R540	B-5C	R670	A-5B	C306	B-1A	C530	A-4C
IC401	B-2C	R23	B-6D	R405	A-2B	R541	B-5C	R671	A-5B	C307	A-1B	C531	A-3C
IC402	B-1C	R24	A-6D	R406	A-2B	R542	B-5C	R672	A-5B	C308	B-2B	C532	A-3C
IC501	B-4C	R25	B-6D	R407	B-1D	R543	B-5C	R673	A-5B	C309	A-2B	C533	A-3C
IC502	A-3C	R26	B-6D	R408	B-1D	R544	B-5C	R674	A-5B	C310	B-2A	C534	A-3C
IC503	B-3C	R27	B-5D	R409	A-2C	R545	B-5C	R675	A-5B	C311	B-2A	C535	B-3C
IC504	B-5A	R28	B-5E	R410	A-1C	R546	B-5C	R676	A-5B	C312	B-2A	C536	A-3C
IC601	B-3B	R29	B-3D	R411	B-1C	R547	B-5C	R677	A-5B	C313	B-1A	C537	A-3C
IC651	B-5B	R30	B-5D	R412	B-1C	R548	B-5C	R678	B-5B	C314	A-1B	C538	A-3C
TRANSISTOR		R31	B-5D	R413	B-1D	R561	B-3C	R679	B-5B	C315	B-1B	C539	B-3C
Q1	A-3E	R32	B-5D	R414	B-1D	R562	B-3C	R682	B-5B	C316	A-2B	C540	B-3C
Q2	B-6D	R33	B-5D	R415	B-1D	R563	B-3C	R683	B-5B	C351	A-2D	C541	A-3C
Q3	B-5E	R34	B-5D	R416	B-1D	R564	B-3C	R684	A-3C	C352	A-2E	C542	A-4C
Q5	B-3D	R35	B-5D	R417	B-2D	R565	A-3B	R685	A-3C	C353	A-2E	C543	B-3C
Q6	B-5D	R36	A-6D	R418	B-2C	R566	B-2C	R686	B-5C	C354	B-2E	C544	B-3C
Q7	B-5D	R37	A-6D	R419	B-2C	R567	B-2C	R687	A-5B	C355	B-2E	C545	B-3C
Q8	B-5D	R38	B-3D	R420	B-2C	R568	B-2C	R701	A-2A	C356	B-2E	C546	A-3C
Q9	B-5D	R39	B-3D	R421	B-2D	R569	B-2C	R702	A-2A	C357	A-2E	C547	B-3C
Q201	B-4D	R40	B-4E	R422	B-1C	R570	B-3C	R703	B-2B	C358	A-3E	C548	B-3C
Q202	B-4D	R41	B-4D	R423	B-1C	R571	B-3C	R704	B-2B	C359	A-3E	C549	A-4B
Q203	B-4D	R43	A-4D	R424	B-1C	R572	B-3C	R705	B-2B	C360	A-3E	C550	B-3C
Q351	B-2D	R44	A-4E	R425	B-2C	R573	B-3C	R706	B-2A	C361	A-3E	C551	B-3C
Q401	B-1D	R45	B-4D	R426	B-2C	R574	B-3C	R707	B-2B	C362	A-3E	C552	A-3C
Q402	B-1D	R46	B-4D	R427	B-2C	R575	B-3C	R708	B-2B	C363	A-3D	C553	B-3C
Q403	A-1C	R47	A-4E	R428	B-2C	R576	A-3B	NETWORK		C401	A-1C	C554	B-3C
Q404	B-1D	R48	B-4D	R429	A-2C	R577	A-3C	RESISTOR		C402	A-2B	C555	B-3C
Q405	B-1D	R49	B-3D	R430	A-2C	R578	B-3C	RA1	B-5E	C403	B-1C	C556	A-3C
Q406	B-1C	R50	B-3D	R431	A-2C	R579	A-2C	RA2	B-4D	C404	B-1C	C558	A-5C
Q407	B-1D	R51	B-3D	R433	A-1C	R580	B-2C	RA3	B-4D	C405	B-2C	C559	B-5C
Q408	B-1D	R52	B-3D	R434	A-1C	R581	B-2C	RA4	B-4D	C406	B-2C	C560	A-4C
Q501	A-3B	R53	B-4E	R436	A-1C	R582	B-2C	RA5	A-4D	C407	B-2C	C561	A-2C
Q502	A-3C	R56	B-5D	R437	B-1C	R583	B-2C	RA6	A-4D	C408	A-2C	C562	A-2B
Q503	B-3C	R57	B-5D	R438	A-1C	R584	B-2C	RA7	B-5D	C409	B-2D	C563	B-2B
Q504	B-5C	R58	A-6D	R439	B-1C	R585	B-2C	RA8	B-6D	C410	A-2C	C564	A-3C
Q505	B-5C	R59	A-6D	R442	B-1C	R586	A-3C	RA9	B-4D	C411	B-2C	C565	A-3C
Q506	B-5C	R60	A-5D	R443	A-1C	R588	B-4C	RA10	B-5D	C412	A-1C	C566	A-3C
Q507	B-3C	R61	A-5D	R444	B-1C	R589	B-5C	RA11	B-5D	C413	B-2C	C567	B-3C
Q561	B-3C	R62	A-6D	R445	B-1C	R590	B-3C	RA12	B-5D	C414	A-2C	C568	A-3C
Q562	B-3C	R63	A-6D	R446	B-1C	R591	B-5A	RA13	B-5D	C415	B-2C	C569	B-2C
Q563	A-3B	R65	B-6D	R447	B-1C	R592	B-5A	RA14	B-6D	C416	B-1C	C570	B-2C
Q564	B-2C	R66	A-6E	R448	A-1C	R593	B-6A	RA15	B-6D	C417	B-1C	C571	A-3C
Q591	B-5A	R67	A-6D	R449	A-1C	R594	A-5A	RA16	B-4D	C418	A-2B	C572	B-3C
Q592	B-5A	R68	A-6D	R450	A-1C	R595	B-5A	CAPACITOR		C419	A-2B	C573	B-3C
Q594	B-3C	R70	A-3E	R451	A-1C	R597	B-3B	C1	A-6C	C420	A-2C	C580	B-6E
Q595	B-3C	R71	A-3E	R452	A-1C	R601	B-3A	C2	B-6E	C421	A-2C	C581	A-6B
Q601	B-3A	R73	B-5D	R453	A-1C	R602	A-3A	C3	A-3E	C422	A-2C	C583	B-3B
Q602	B-3A	R75	B-5D	R454	A-2C	R603	A-3A	C4	B-6E	C423	A-1C	C584	B-3C
Q603	A-3B	R201	A-4E	R455	B-1D	R604	B-4A	C5	B-6E	C424	A-1C	C591	A-5A
Q604	A-3B	R202	A-5E	R456	B-1D	R605	B-3A	C6	A-6B	C425	B-1C	C592	B-5A
Q605	B-3B	R203	A-4E	R457	B-1D	R606	B-4A	C9	B-3D	C426	A-1C	C593	A-5A
Q651	B-3B	R204	A-4E	R501	A-4C	R607	B-3B	C10	B-3D	C427	A-1C	C594	A-6A
Q652	B-5B	R205	A-4D	R502	B-4B	R608	B-3B	C11	B-4D	C428	A-1C	C601	A-3B
Q653	A-5B	R206	A-4D	R503	B-4B	R609	B-3A	C12	B-4D	C429	A-1C	C602	B-4B
Q654	A-5B	R207	B-4D	R504	B-4B	R610	B-3A	C13	B-4D	C430	B-1C	C603	B-3A
Q701	A-2B	R208	B-4D	R505	A-4C	R611	B-4B	C14	A-3E	C431	A-1C	C604	A-3A
Q702	B-2B	R209	B-4D	R506	B-4B	R612	A-3B	C15	A-3E	C432	B-1C	C605	B-3A
Q703	B-2B	R210	B-4D	R507	B-4B	R613	B-3B	C16	B-3E	C433	B-1C	C606	A-3A
Q704	B-2B	R211	B-5E	R508	B-4B	R614	B-2B	C17	B-6E	C434	B-1C	C607	A-3A
DIODE		R212	B-5E	R509	B-4B	R615	B-2B	C18	B-6D	C435	B-1C	C608	A-3A
D2	B-6E	R213	B-5E	R510	B-4C	R616	B-2B	C19	B-6D	C436	A-1D	C609	B-3A
D3	A-5E	R301	A-1B	R511	B-4C	R617	B-2B	C21	B-6D	C437	B-1D	C610	A-3A
D201	B-4D	R302	A-1B	R512	B-4C	R618	B-2B	C22	B-6D	C438	B-1D	C611	A-3A
D301	B-1A	R303	A-1B	R513	B-4C	R619	B-3A	C23	A-6D	C439	A-1C	C612	B-4A
D601	B-5B	R304	B-1A	R514	B-4C	R620	B-4A	C24	A-6D	C501	B-3B	C613	A-4A
DA1	A-5E	R305	B-2A	R515	A-4C	R621	B-4B	C25	B-3D	C502	A-4C	C614	B-4B
DA2	A-6D	R306	A-1B	R516	A-4C	R622	B-4B	C26	B-3D	C503	B-4B	C615	A-3A
DA3	A-3E	R307	B-2B	R517	A-4C	R623	B-4B	C27	A-3E	C504	A-4B	C616	B-4A
RESISTOR		R308	B-2B	R518	A-4C	R624	B-3B	C28	B-5D	C505	A-4C	C617	B-4B
R1	B-5D	R309	B-2A	R519	A-4C	R625	B-2B	C29	B-5D	C506	B-4B	C618	B-4B
R2	B-6E	R310	B-2A	R520	A-4C	R629	B-3B	C30	B-5D	C507	B-4B	C619	A-3B
R3	B-4D	R311	A-1B	R521	A-4C	R630	B-3B	C201	B-4E	C508	B-4B	C620	A-3B
R4	B-4D	R312	A-1B	R522	A-3C	R631	A-3B	C202	B-5E	C509	B-4B	C621	B-3B
R5	B-4D	R313	B-1A	R523	A-3C	R651	B-5B	C203	B-4E	C510	B-4B	C622	B-3B
R6	B-3E	R314	B-1B	R524	A-3C	R652	A-5B	C204	B-4E	C511	B-4B	C623	B-3B
R7	B-3E	R351	A-3E	R525	A-3C	R653	A-5B	C205	B-4D	C512	B-4B	C624	B-3B
R8	B-4D	R352	A-3E	R526	A-3C	R654	B-5B	C206	B-4D	C513	B-4C	C625	B-3B
R9	B-4D	R353	A-3E	R527	B-3C	R655	B-6B	C207	A-5D	C514	A-3C	C626	B-3A
R10	B-4D	R354	A-3E	R528	A-3C	R656	A-3B	C208	A-4D	C515	A-4C	C627	B-3B
R11	A-3E	R355	A-3E	R529	A-3C	R658	B-3B	C209	B-4D	C516	A-4C	C628	A-3A
R12	A-3E	R356	A-3E	R530	A-3C	R659	B-3B	C210	B-4D	C518	B-4C	C629	A-3A

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T652	A-5C
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CN8	A-1D
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CN20	B-6D
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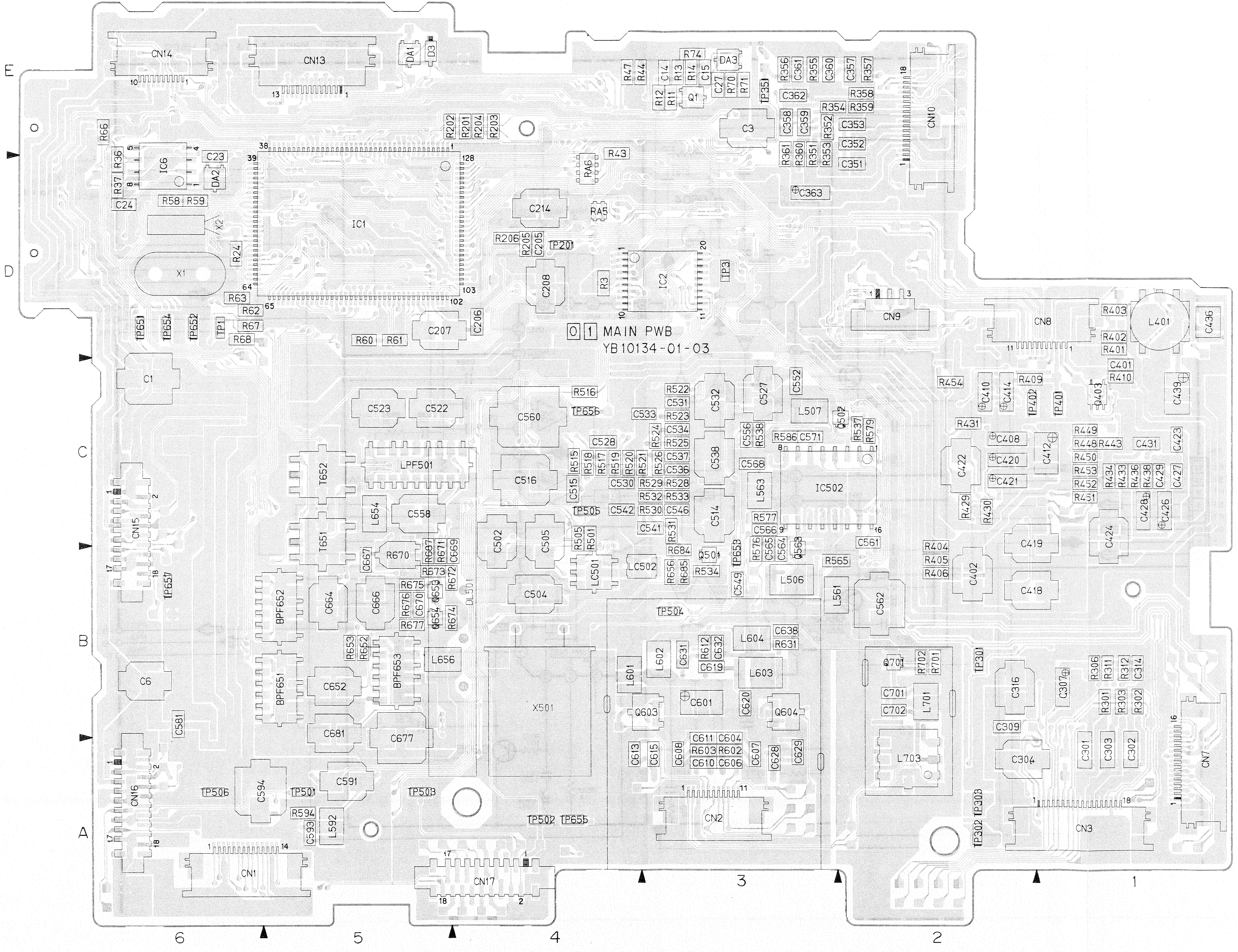
TP657	A-6B

COMPONENT SIDE (A)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R11
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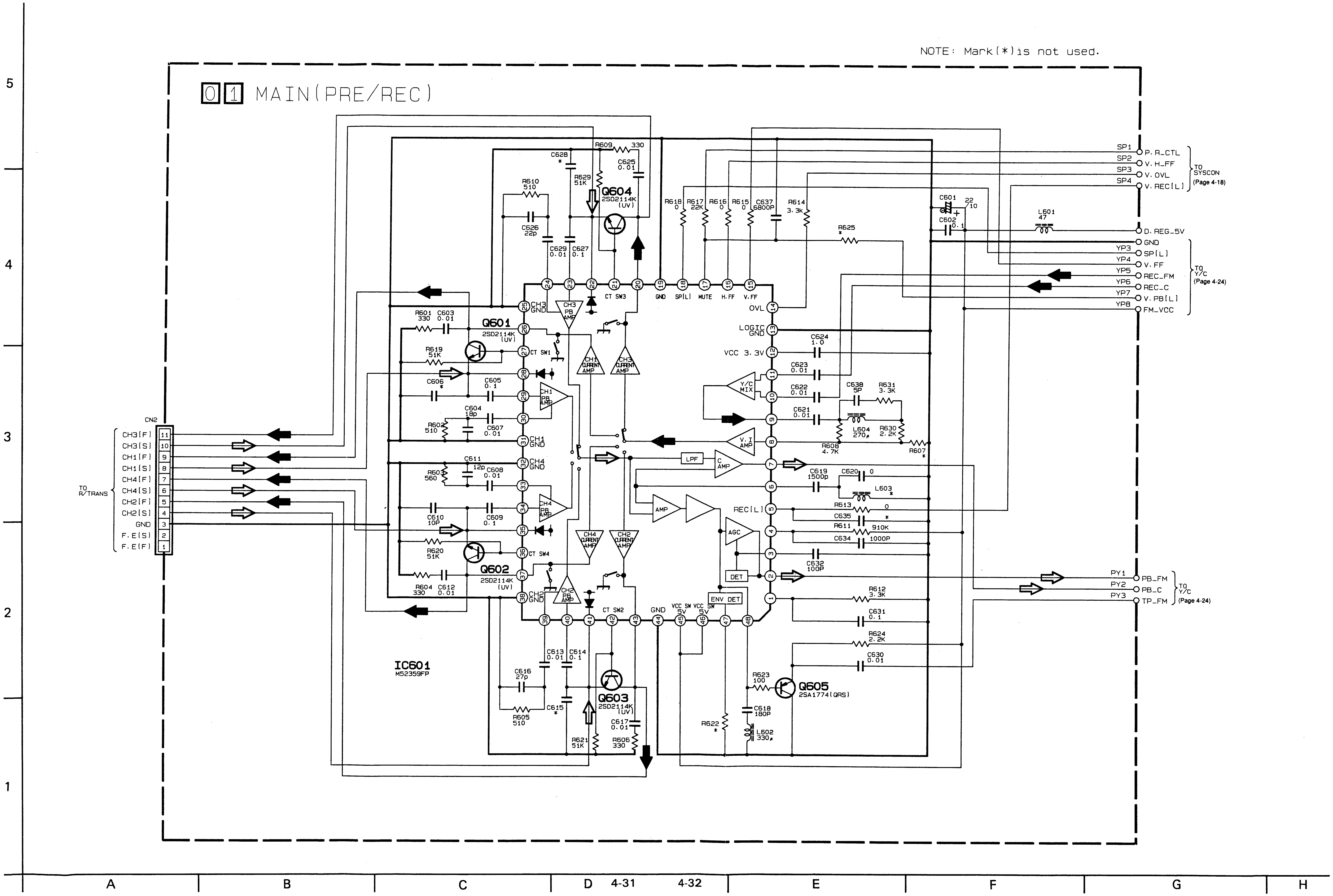
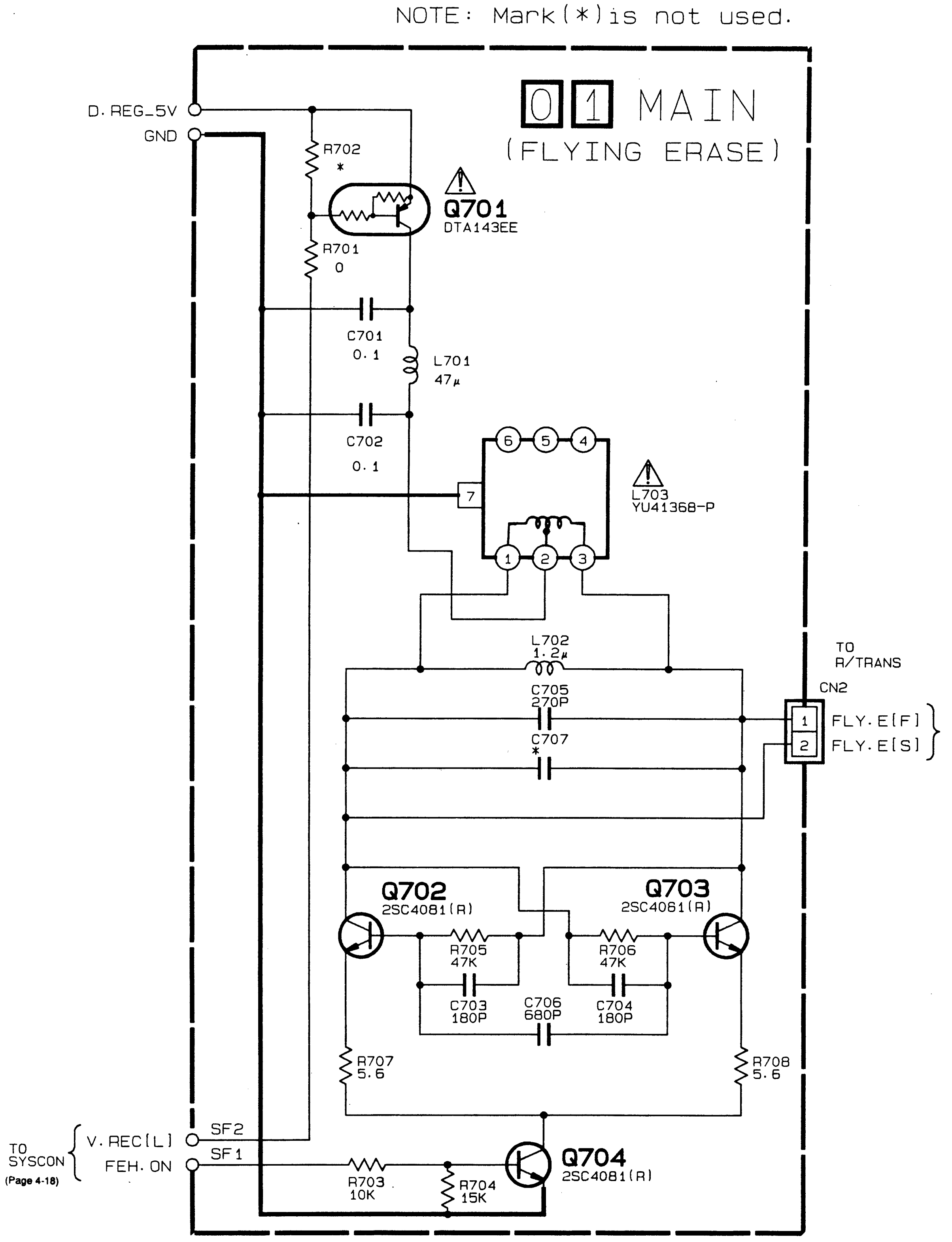
CN17

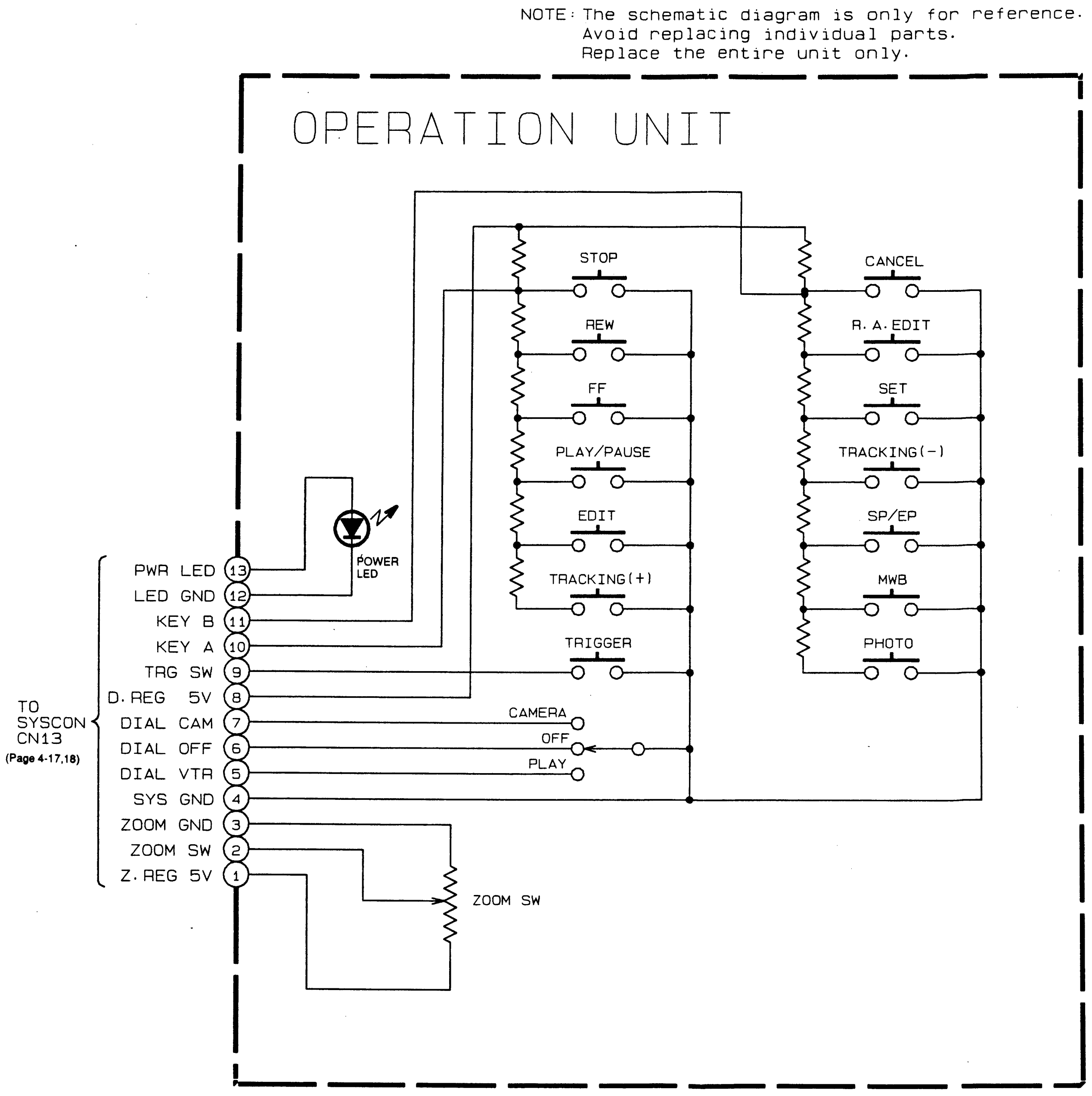
4.12 PRE/REC SCHEMATIC DIAGRAM


NOTE: Mark(*)is not used.
01 MAIN(PRE/REC)
CN2
CH3[F] 11
CH3[S] 10
CH1[F] 9
CH1[S] 8
CH4[F] 7
CH4[S] 6
CH2[F] 5
CH2[S] 4
GND 3
F.E[S] 2
F.E[F] 1
TO R/TRANS
IC601
M52359FP
Q601
2SD2114K (UV)
Q602
2SD2114K (UV)
Q603
2SD2114K (UV)
Q604
2SD2114K (UV)
Q605
2SA1774(QRS)
R601 330
C603 0.01
R619 51K
C606 *
C605 0.1
R602 510
C604 18p
C607 0.01
C611 12p
R603 560
C608 0.01
C610 10P
C609 0.1
R620 51K
R604 330
C612 0.01
R609 330
C628 *
C625 0.01
R610 510
R629 51K
C626 22p
C629 0.01
C627 0.1
C616 27p
C613 0.01
C614 0.1
R605 510
C615 *
R621 51K
C617 0.01
R606 330
R618 0
R617 22K
R616 0
R615 0
C637 6800P
R614 3.3k
R625 *
C601 22 10
C602 0.1
L601 47
C624 1.0
C623 0.01
C622 0.01
C621 0.01
C638 5P
R631 3.3K
L604 270µ
R630 2.2K
R608 4.7K
R607 *
C619 1500p
C620 0
L603 *
R613 0
C635 *
R611 910K
C634 1000P
C632 100P
R612 3.3K
C631 0.1
R624 2.2K
C630 0.01
R623 100
C618 180P
L602 330µ
R622 *
CH3 GND
CT SW1
CH1 GND
CH4 GND
CT SW4
CH2 GND
CH3 PB AMP
CT SW3
CH1 CURRENT AMP
CH3 CURRENT AMP
CH1 PB AMP
CH4 PB AMP
CH4 CURRENT AMP
CH2 CURRENT AMP
CH2 PB AMP
CT SW2
GND
VCC 5V
SW VCC 5V
ENV DET
GND
SP[L]
MUTE
H.FF
V.FF
OVL
LOGIC GND
VCC 3.3V
Y/C MIX
V.I AMP
LPF
C AMP
AMP
REC[L]
AGC
DET
SP1 P.R_CTL
SP2 V.H_FF
SP3 V.OVL
SP4 V.REC[L]
TO SYSCON (Page 4-18)
D.REG_5V
GND
YP3 SP[L]
YP4 V.FF
YP5 REC_FM
YP6 REC_C
YP7 V.PB[L]
YP8 FM_VCC
TO Y/C (Page 4-24)
PY1 PB_FM
PY2 PB_C
PY3 TP_FM
TO Y/C (Page 4-24)
1
2
3
4
5
A
B
C
D
E
F
G
H

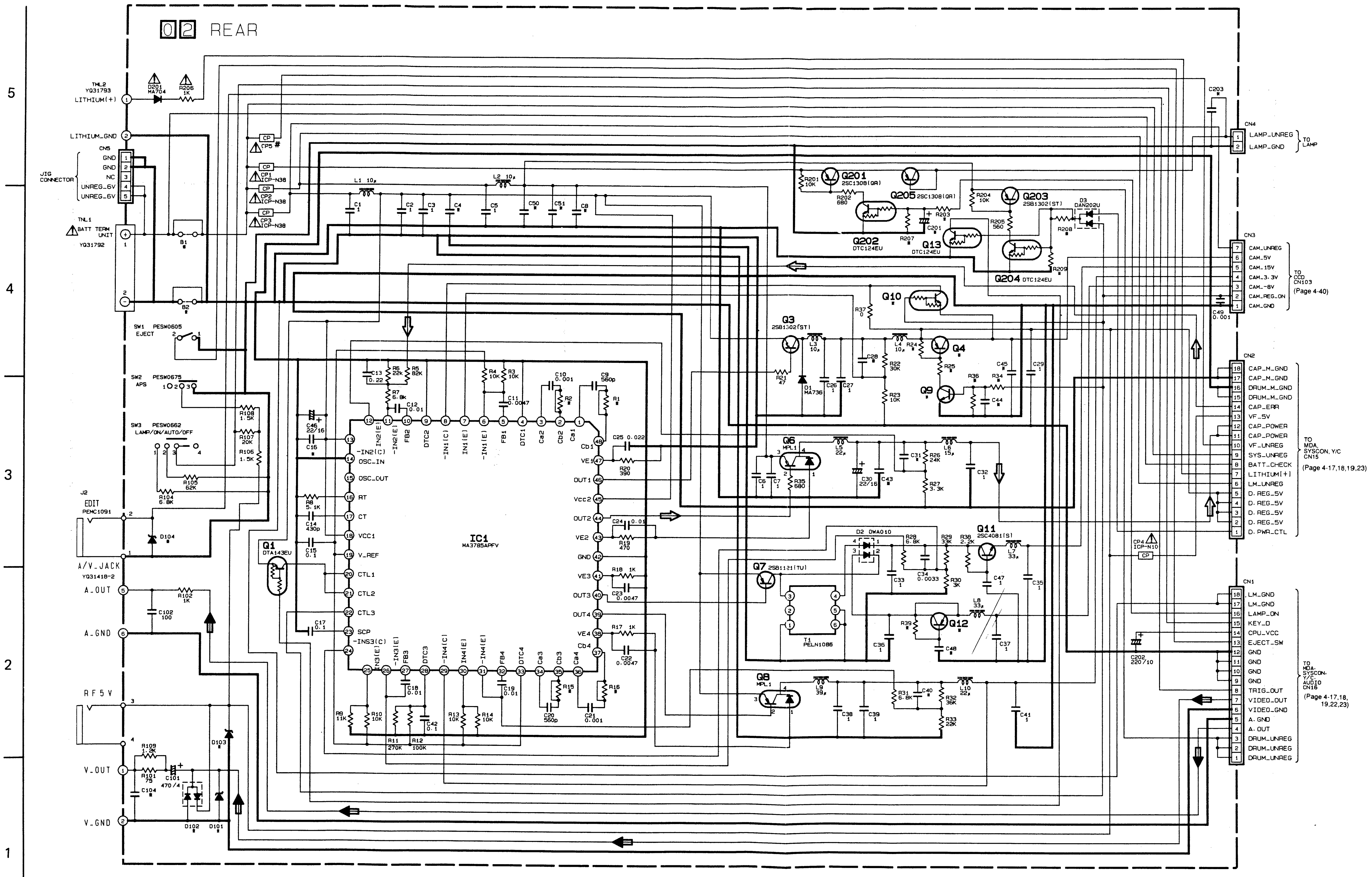
4.13 FLYING ERASE SCHEMATIC DIAGRAM


NOTE: Mark(*)is not used.
01 MAIN
(FLYING ERASE)
D.REG_5V
GND
R702
*
Q701
DTA143EE
R701
0
C701
0.1
L701
47μ
C702
0.1
6
5
4
7
L703
YU41368-P
1
2
3
L702
1.2μ
C705
270P
C707
*
TO
R/TRANS
CN2
1
2
FLY.E[F]
FLY.E[S]
Q702
2SC4081(R)
Q703
2SC4081(R)
R705
47K
R706
47K
C703
180P
C706
680P
C704
180P
R707
5.6
R708
5.6
TO
SYSCON
(Page 4-18)
V.REC[L]
FEH.ON
SF2
SF1
R703
10K
R704
15K
Q704
2SC4081(R)

4.14 OPERATION UNIT SCHEMATIC DIAGRAM


NOTE: The schematic diagram is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.
OPERATION UNIT
STOP
REW
FF
PLAY/PAUSE
EDIT
TRACKING(+)
TRIGGER
CANCEL
R.A.EDIT
SET
TRACKING(-)
SP/EP
MWB
PHOTO
POWER
LED
PWR LED
LED GND
KEY B
KEY A
TRG SW
D.REG 5V
DIAL CAM
DIAL OFF
DIAL VTR
SYS GND
ZOOM GND
ZOOM SW
Z.REG 5V
13
12
11
10
9
8
7
6
5
4
3
2
1
TO
SYSCON
CN13
(Page 4-17,18)
CAMERA
OFF
PLAY
ZOOM SW

4.15 REAR SCHEMATIC DIAGRAM



02 REAR
5
4
3
2
1
TML2 YQ31793 LITHIUM(+) 1
LITHIUM_GND 2
D201 MA704
R206 1K
JIG CONNECTOR
CN5
GND 1
GND 2
NC 3
UNREG_6V 4
UNREG_6V 5
TNL1
BATT TERM UNIT YQ31792
B1
B2
SW1 PESW0605 EJECT
SW2 PESW0675 APS
SW3 PESW0662 LAMP/ON/AUTO/OFF
J2 EDIT PEMC1091
A/V_JACK YQ31418-2
A_OUT
A_GND
RF5V
V_OUT
V_GND
D104
R102 1K
C102 100
R108 1.5K
R107 20K
R106 1.5K
R105 62K
R104 6.8K
R109 1.2K
R101 75
C101 470/4
C104
D102
D101
D103
CP CP5 #
CP CP1 ICP-N38
CP CP2 ICP-N38
CP CP3 ICP-N38
L1 10μ
L2 10μ
C1 C2 C3 C4 C5 C50 C51 C8
Q1 DTA143EU
IC1 MA3785APFV
-IN2(C)
OSC_IN
OSC_OUT
RT
CT
VCC1
V_REF
CTL1
CTL2
CTL3
SCP
-INS3(C)
-IN2(E)
FB2
DTC2
-IN1(C)
IN1(E)
-IN1(E)
FB1
DTC1
Ca2
Cb2
Ca1
Cb1
VE1
OUT1
Vcc2
OUT2
VE2
GND
VE3
OUT3
OUT4
VE4
Cb4
IN3(E)
-IN3(E)
FB3
DTC3
-IN4(C)
IN4(E)
-IN4(E)
FB4
DTC4
Ca3
Cb3
Ca4
C13 0.22
R6 22K
R5 82K
R7 6.8K
C12 0.01
R4 10K
R3 10K
C11 0.0047
C10 0.001
C9 560p
R2
R1
C46 22/16
C16
R8 5.1K
C14 430p
C15 0.1
C17 0.1
C25 0.022
R20 390
C24 0.01
R19 470
R18 1K
C23 0.0047
R17 1K
C22 0.0047
C18 0.01
C19 0.01
R15
R16
C20 560p
C21 0.001
R9 11K
R10 10K
R11 270K
R12 100K
C42 0.1
R13 10K
R14 10K
Q201 2SC1308(QR)
Q205 2SC1308(QR)
Q203 2SB1302(ST)
Q202 DTC124EU
Q13 DTC124EU
Q204 DTC124EU
R201 10K
R202 680
R203
C201
R207
R204 10K
R205 560
R208
R209
D3 DAN202U
Q10
R37 0
Q3 2SB1302(ST)
L3 10μ
L4 10μ
R24
Q4
R21 47
D1 MA736
C26 1
C27 1
C28
R22 30K
R23 10K
R25
Q9
R36
R34
C45
C44
C29 1
Q6 MPL1
L5 22μ
C30 22/16
C43
C31
R26 24K
L6 15μ
R27 3.3K
C32 1
C6 1
C7 1
R35 680
D2 DWA010
R28 6.8K
R29 33K
R38 2.2K
Q11 2SC4081(S)
L7 33μ
Q7 2SB1121(TU)
T1 PELN1086
C33 1
C34 0.0033
R30 3K
C47 1
C35 1
L8 33μ
R39
Q12
C36 1
C48
C37 1
Q8 MPL1
L9 39μ
C38 1
C39 1
R31 6.8K
C40
R32 36K
L10 22μ
R33 22K
C41 1
C203
C49 0.001
C202 220/10
CP4 ICP-N10
CN4
1 LAMP_UNREG
2 LAMP_GND
TO LAMP
CN3
7 CAM_UNREG
6 CAM_5V
5 CAM_15V
4 CAM_3.3V
3 CAM_-8V
2 CAM_REG_ON
1 CAM_GND
TO CCD CN103 (Page 4-40)
CN2
18 CAP_M_GND
17 CAP_M_GND
16 DRUM_M_GND
15 DRUM_M_GND
14 CAP_ERR
13 VF_5V
12 CAP_POWER
11 CAP_POWER
10 VF_UNREG
9 SYS_UNREG
8 BATT_CHECK
7 LITHIUM(+)
6 LM_UNREG
5 D.REG_5V
4 D.REG_5V
3 D.REG_5V
2 D.REG_5V
1 D.PWR_CTL
TO MDA. SYSCON, Y/C CN15 (Page 4-17,18,19,23)
CN1
18 LM_GND
17 LM_GND
16 LAMP_ON
15 KEY_D
14 CPU_VCC
13 EJECT_SW
12 GND
11 GND
10 GND
9 GND
8 TRIG_OUT
7 VIDEO_OUT
6 VIDEO_GND
5 A.GND
4 A.OUT
3 DRUM_UNREG
2 DRUM_UNREG
1 DRUM_UNREG
TO MDA. SYSCON. Y/C. AUDIO CN16 (Page 4-17,18, 19,22,23)

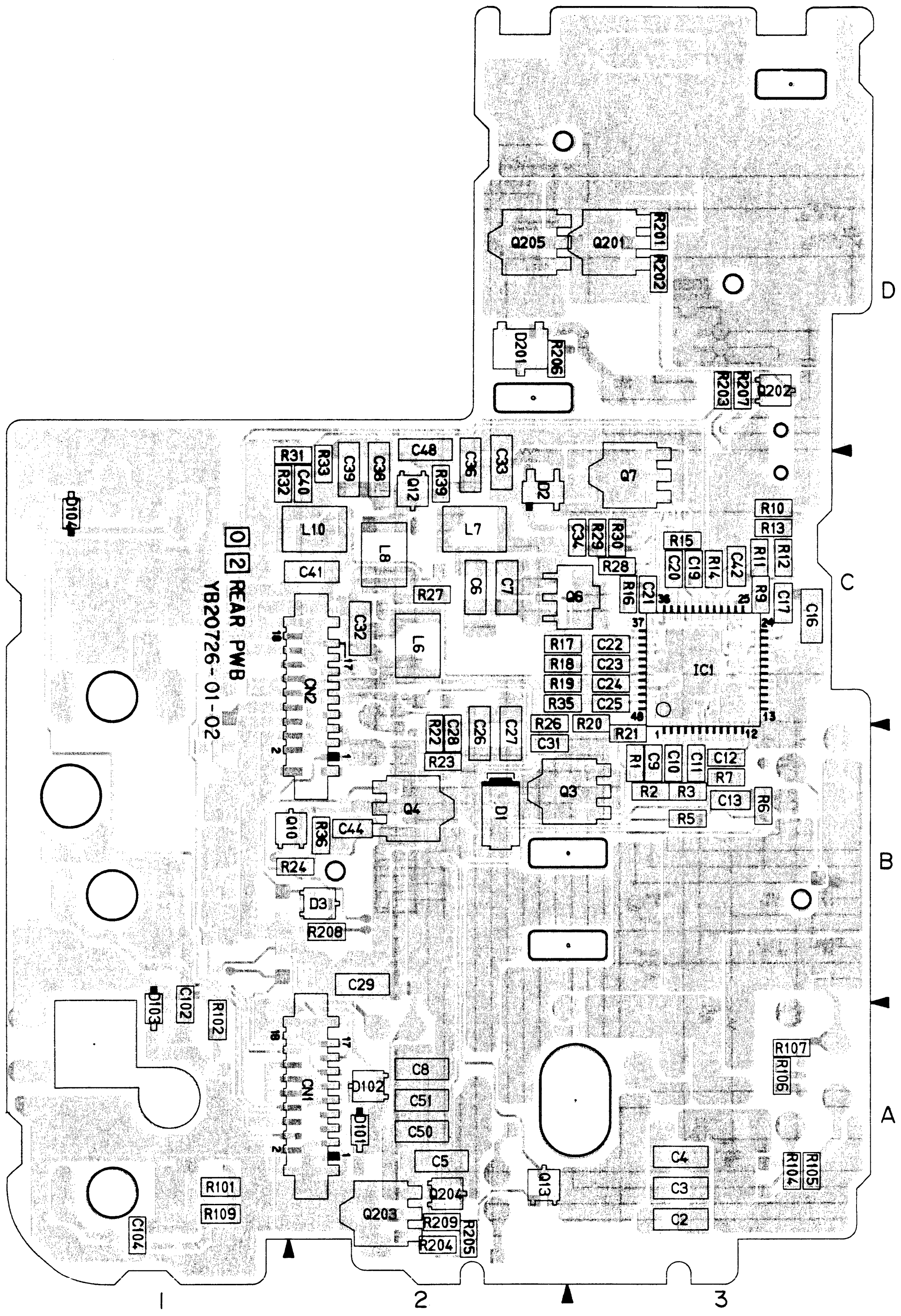
NOTES: 1. Mark(※)is not used.
2. COMPARISION CHART OF MODELS & MARKS(#)

REF. NO	MODELS	
	GR-AX900U/U(C)	GR-AX800U/U(C)
CP5	ICP-N10	NOT USED

4.16 REAR AND APS CIRCUIT BOARDS

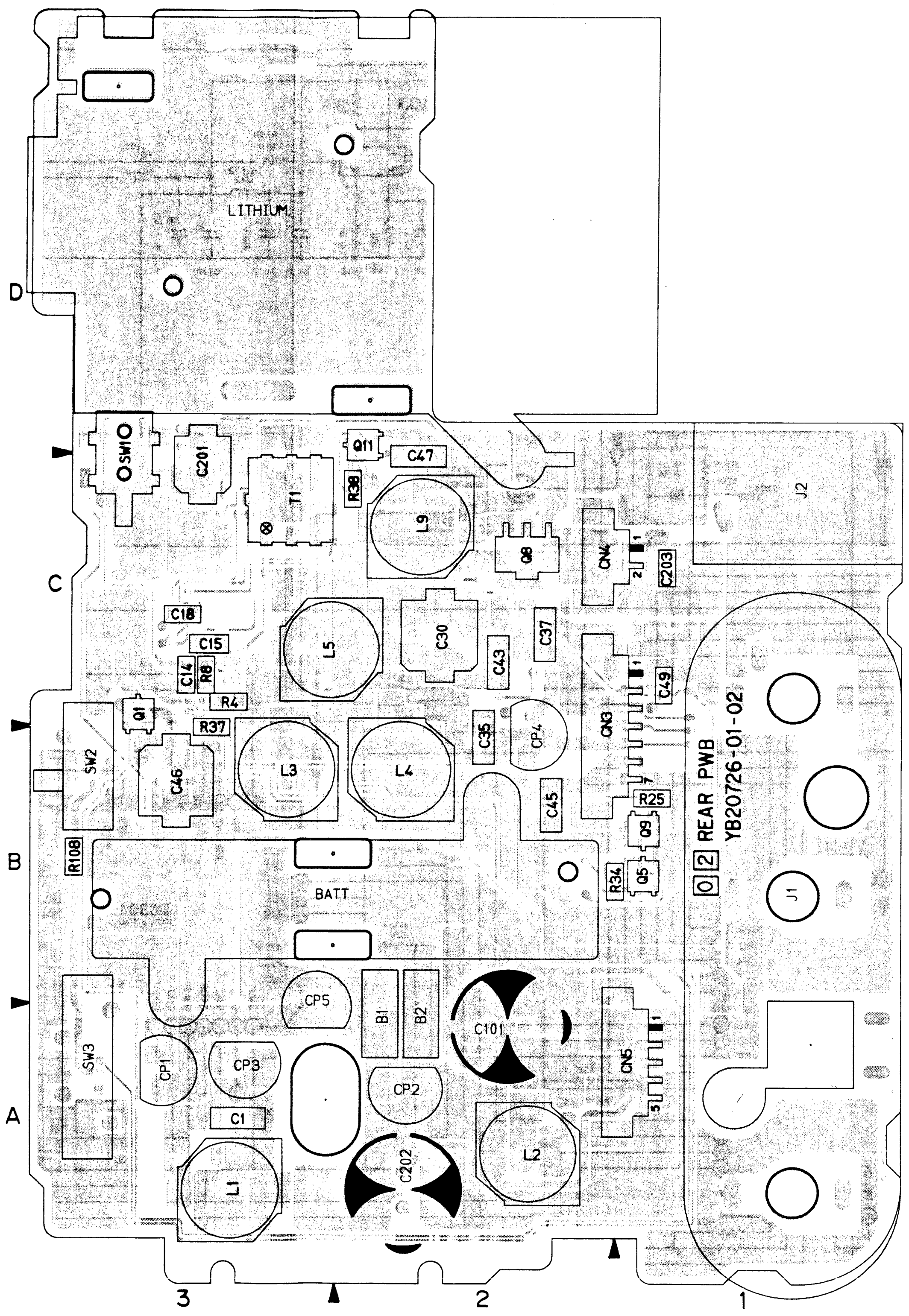
– REAR –

FOIL SIDE (B)



0 2 REAR PWB
YB20726-01-02
Q205
Q201
R201
R202
D201
R206
R203
R207
Q202
R31
R32
R33
C40
C39
C38
Q12
R39
C48
C36
C33
D2
Q7
D104
L10
L8
L7
C41
R27
C6
C7
Q6
C34
R29
R30
R28
R15
C20
C19
R14
C42
R16
R11
R12
R10
R13
R9
C17
C16
CN2
C32
L6
R17
R18
R19
R35
R26
C22
C23
C24
C25
IC1
R20
R21
C31
R22
R23
C28
C26
C27
R1
C9
C10
C11
C12
R7
C13
R6
R2
R3
R5
Q4
D1
Q3
Q10
R36
C44
R24
D3
R208
C29
D103
C102
R102
CN1
D102
D101
C8
C51
C50
C5
Q204
Q203
R209
R204
R205
Q13
C4
C3
C2
R107
R106
R105
R104
R101
R109
C104
D
C
B
A
1
2
3

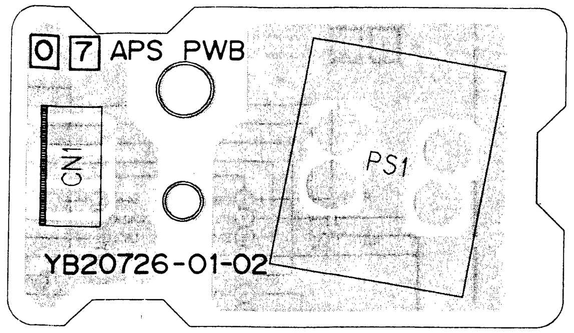
COMPONENT SIDE (A)



LITHIUM
D
C
B
A
SW1
C201
T1
R38
Q11
C47
L9
Q8
CN4
C203
J2
C18
C15
C14
R8
R4
R37
Q1
L5
C30
C43
C37
CN3
C49
SW2
C46
L3
L4
C35
CP4
C45
R25
Q9
Q5
R34
0 2 REAR PWB
YB20726-01-02
J1
R108
BATT
SW3
CP5
B1
B2
C101
CN5
CP1
CP3
CP2
C1
L1
C202
L2
3
2
1

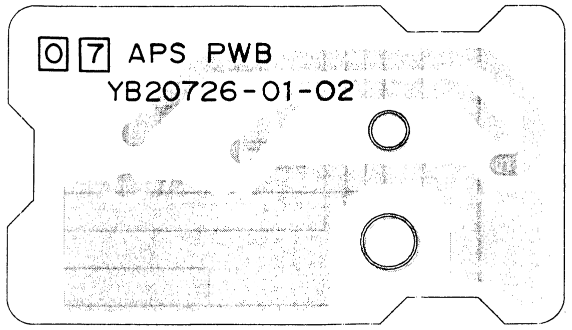
– APS –

FOIL SIDE (B)



0 7 APS PWB
CN1
PS1
YB20726-01-02

COMPONENT SIDE (A)



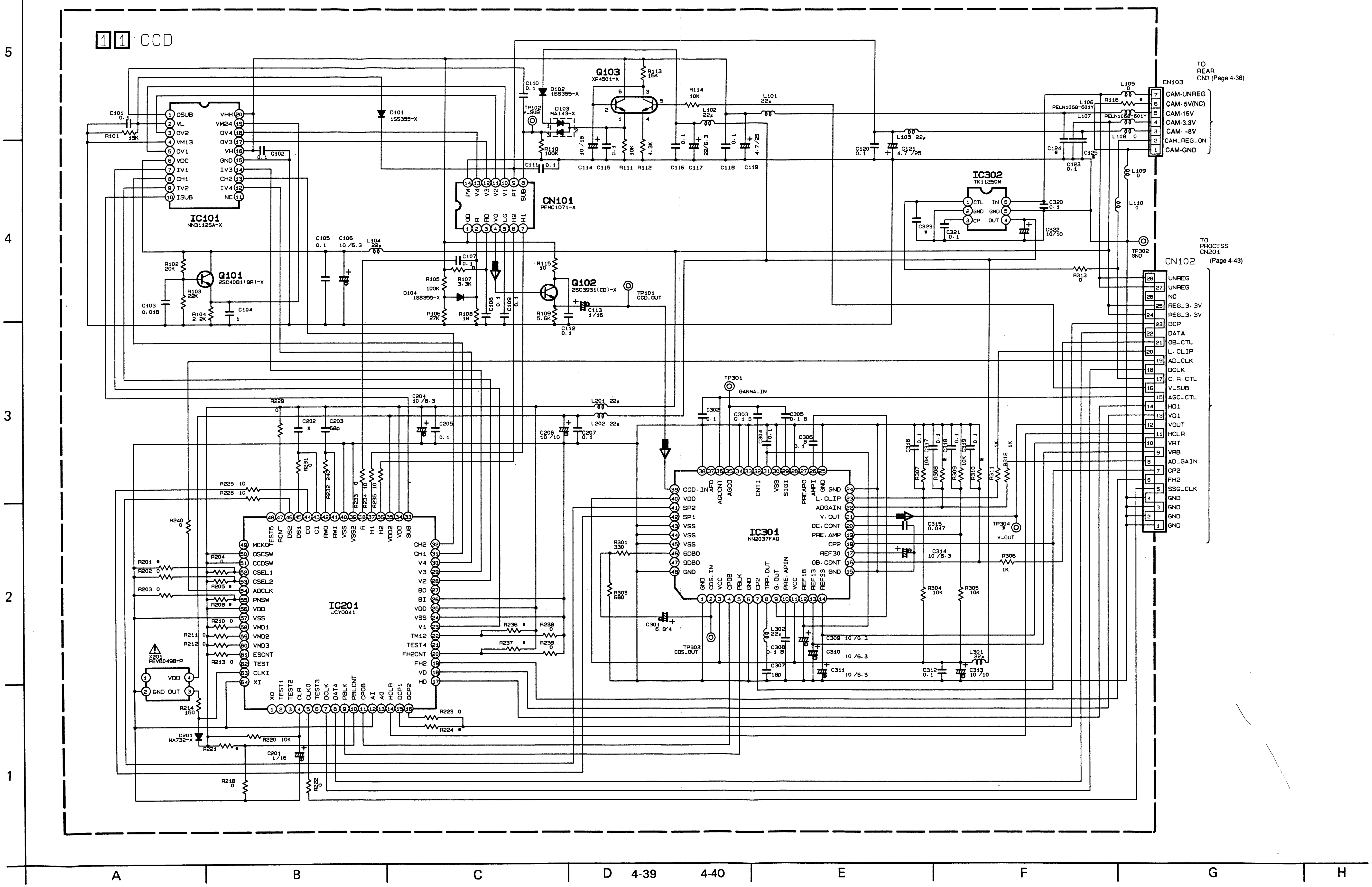
0 7 APS PWB
YB20726-01-02

PARTS LOCATION GUIDE <REAR BOARD>

REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION	REF.No.	LOCATION
IC		R14	B-3C	CAPACITOR		C43	A-2C
IC1	B-3C	R15	B-3C	C1	A-3A	C44	B-2C
TRANSISTOR		R16	B-3C	C2	B-3A	C45	A-2B
Q1	A-3C	R17	B-3C	C3	B-3A	C46	A-3B
Q3	B-3B	R18	B-3C	C4	B-3A	C47	A-2D
Q4	B-2B	R19	B-3C	C5	B-2A	C48	B-2D
Q5	A-1B	R20	B-3C	C6	B-2C	C49	A-1C
Q6	B-3C	R21	B-3C	C7	B-2C	C50	B-2A
Q7	B-3C	R22	B-2B	C8	B-2A	C51	B-2A
Q8	A-2C	R23	B-2B	C9	B-3B	C102	B-1A
Q9	A-1B	R24	B-2B	C10	B-3B	C104	B-1A
Q10	B-2B	R25	A-1B	C11	B-3B	C201	A-3C
Q11	A-2D	R26	B-2C	C12	B-3B	C203	A-1C
Q12	B-2C	R27	B-2C	C13	B-3B	COIL	
Q13	B-2A	R28	B-3C	C14	A-3C	L1	A-3A
Q201	B-3D	R29	B-3C	C15	A-3C	L2	A-2A
Q202	B-2A	R30	B-3C	C16	B-3C	L3	A-3B
Q203	B-2A	R31	B-2C	C17	B-3C	L4	A-2B
Q204	B-2D	R32	B-1C	C18	A-3C	L5	A-3C
Q205	A-3D	R33	B-2C	C19	B-3C	L6	B-2C
DIODE		R34	A-2B	C20	B-3C	L7	B-2C
D1	B-2B	R35	B-3C	C21	B-3C	L8	B-2C
D2	B-2C	R36	B-2B	C22	B-3C	L9	A-2C
D3	B-2B	R37	A-3A	C23	B-3C	L10	B-2C
D101	B-2A	R38	A-2C	C24	B-3C	SWITCH	
D102	B-2A	R39	B-2C	C25	B-3C	SW1	A-3C
D103	B-1C	R101	B-1A	C26	B-2B	SW TRANS	
D104	B-2D	R102	B-1A	C27	B-2B	T1	A-3C
D201	A-2D	R104	B-3A	C28	B-2B	CONNECTOR	
RESISTOR		R105	B-3A	C29	B-2B	CN1	B-2A
R1	B-3B	R106	B-3A	C30	A-2C	CN2	B-2C
R2	B-3B	R107	B-3A	C31	B-2B	CN3	A-2C
R3	B-3B	R108	A-3B	C32	B-2C	CN4	A-2C
R4	A-3C	R109	B-1A	C33	B-2C	CN5	A-1A
R5	B-3B	R201	B-3D	C34	B-3C	CP	
R6	B-3B	R202	B-3D	C35	A-2B	CP1	A-3A
R7	B-3B	R203	B-3D	C36	B-2C	CP2	A-2A
R8	A-3C	R204	B-2A	C37	A-2C	CP3	A-3A
R9	B-3C	R205	B-2A	C38	B-2C	CP4	A-2B
R10	B-3C	R206	B-2D	C39	B-2C	CP5	B-3B
R11	B-3C	R207	B-3D	C40	B-2C		
R12	B-3C	R208	B-2B	C41	B-2C		
R13	B-3C	R209	B-2A	C42	B-3C		

4.17 CCD SCHEMATIC DIAGRAM

NOTES:
1. Mark (※) is not used.
2. A DC-DC converter is included in the IC of this CCD circuit. Use ample care when checking the voltages.
Even a brief shorting of the pins can destroy the IC.

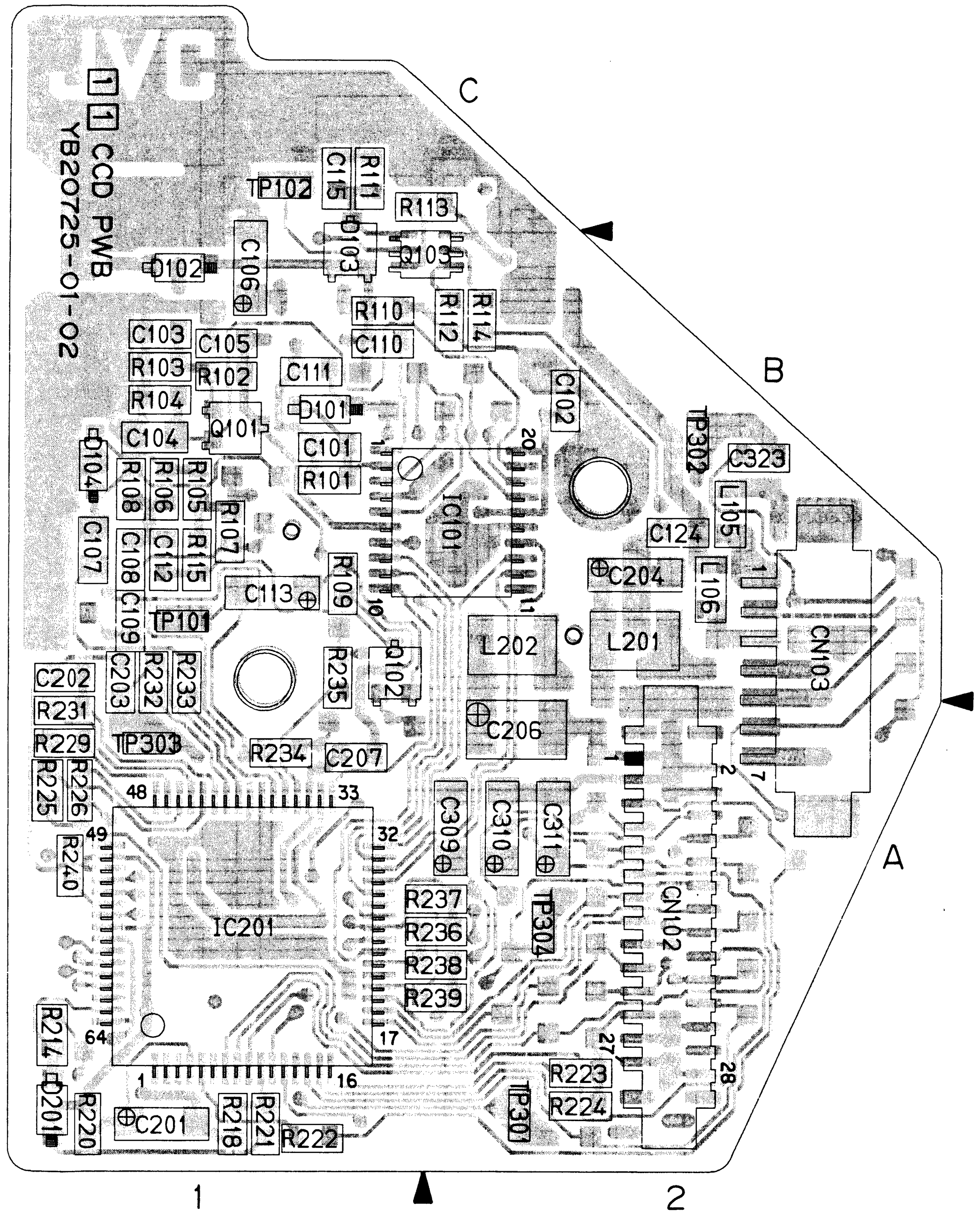


1 1 CCD
IC101
MN3112SA-X
OSUB
VL
OV2
VM13
OV1
VDC
IV1
CH1
IV2
ISUB
VHH
VM24
OV3
OV4
VH
GND
IV3
CH2
IV4
NC
Q101
2SC4081(QR)-X
Q102
2SC3931(CD)-X
Q103
XP4501-X
D101
1SS355-X
D102
1SS355-X
D103
MA143-X
D104
1SS355-X
CN101
PEMC1071-X
TP101
CCD_OUT
TP102
V_SUB
L101 22μ
L102 22μ
L103 22μ
L104 22μ
L105 0
L106
PELN1068-601Y
L107
L108 0
L109 0
L110 0
IC302
TK11250M
CTL
IN
GND
CP
OUT
TP302
GND
CN103
TO REAR CN3 (Page 4-36)
CAM-UNREG
CAM-5V(NC)
CAM-15V
CAM-3.3V
CAM--8V
CAM_REG_ON
CAM-GND
CN102
TO PROCESS CN201 (Page 4-43)
UNREG
UNREG
NC
REG_3.3V
REG_3.3V
DCP
DATA
OB_CTL
L.CLIP
AD_CLK
DCLK
C.R.CTL
V_SUB
AGC_CTL
HD1
VD1
VOUT
HCLR
VRT
VRB
AD_GAIN
CP2
FH2
SSG_CLK
GND
GND
GND
GND
TP301
GANMA_IN
IC301
MN2037FAQ
CCD.IN
VDD
SP2
SP1
VSS
6DBO
9DBO
GND
AFD
AGCCNT
AGCO
CNTI
VSS
SIGI
PREAPO
AMPI
L.CLIP
ADGAIN
V.OUT
DC.CONT
PRE.AMP
CP2
REF30
OB.CONT
COS.IN
CPOB
PBLK
G.OUT
PRE.APIN
REF18
REF13
REF33
TP303
CDS_OUT
TP304
V_OUT
IC201
JCY0041
MCKO
OSCSW
CCDSW
CSEL1
CSEL2
ADCLK
PNSW
VDD
VSS
VMD1
VMD2
VMD3
ESCNT
TEST
CLKI
XI
TEST5
RCNT
DS2
DS1
CO
CI
RWO
RWI
VSS2
R
H1
H2
VDD2
SUB
CH2
CH1
V4
V3
V2
BO
BI
TM12
TEST4
FH2CNT
FH2
VD
HD
XO
TEST1
TEST2
CLR
CLKO
TEST3
DCLK
DATA
PBLK
PBLCNT
CPOB
AI
AO
HCLR
DCP1
DCP2
X201
PEV80498-P
VDD
GND OUT
D201
MA732-X
A
B
C
D
4-39
4-40
E
F
G
H
1
2
3
4
5

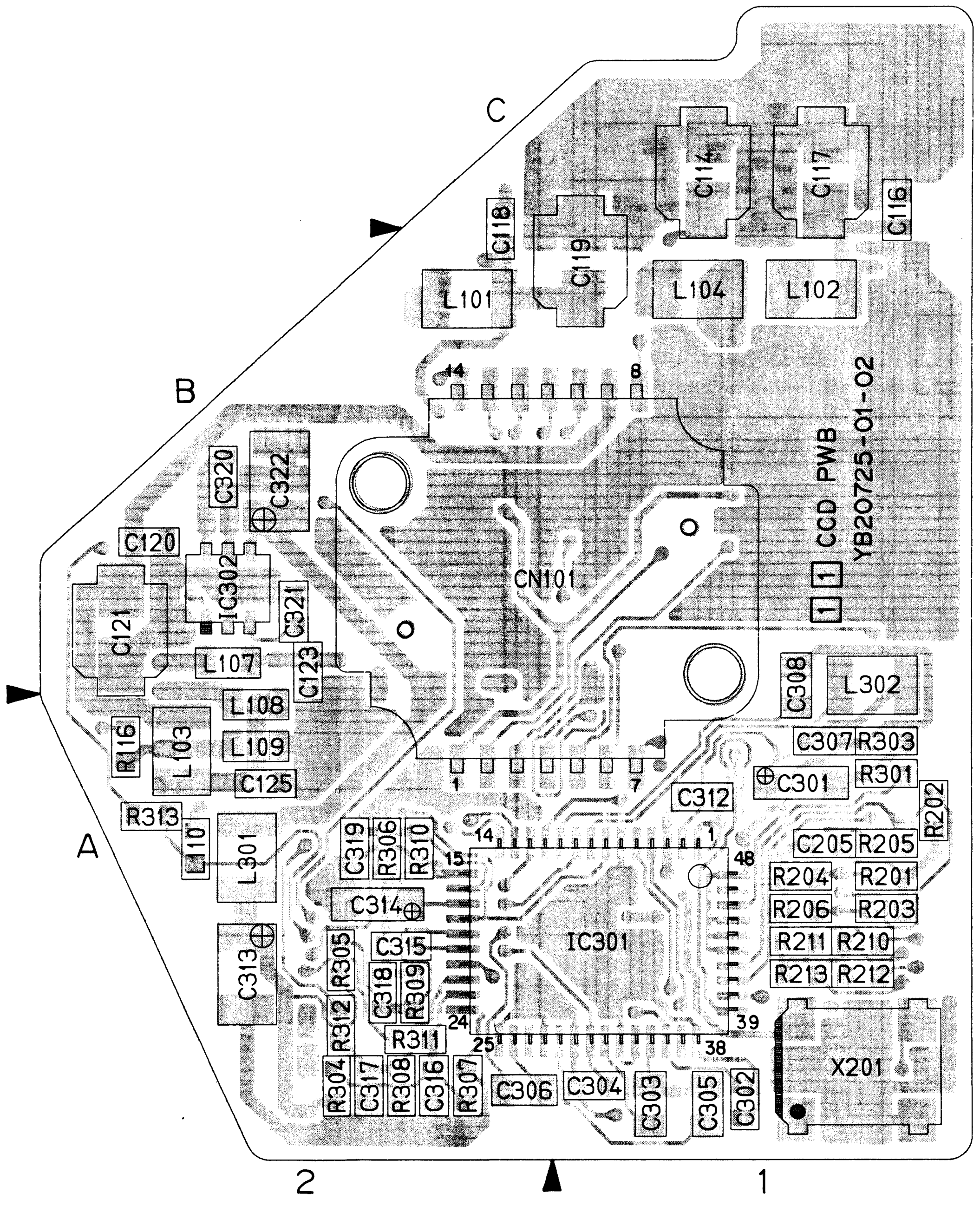
4.18 CCD AND UPPER DRUM CIRCUIT BOARDS

– CCD –

FOIL SIDE (B)


JVC
1 1 CCD PWB
YB20725-01-02
C
B
A
1
2
TP102
C115
R111
R113
Q103
D103
D102
C106
R110
R112
R114
C110
C103
C105
R103
R102
C111
D101
C102
R104
Q101
C104
C101
R101
20
TP302
C323
D104
R108
R106
R105
R107
IC101
C107
C108
C112
R115
L105
C124
C113
R109
C204
L106
TP101
C109
10
11
1
CN103
L202
L201
C202
C203
R232
R233
R235
Q102
R231
C206
R229
TP303
R234
C207
R226
R225
48
33
49
32
R240
C309
C310
C311
CN102
IC201
R237
R236
TP304
R238
R239
R214
64
17
27
28
7
2
R223
R224
16
D201
R220
C201
R218
R221
R222
TP301

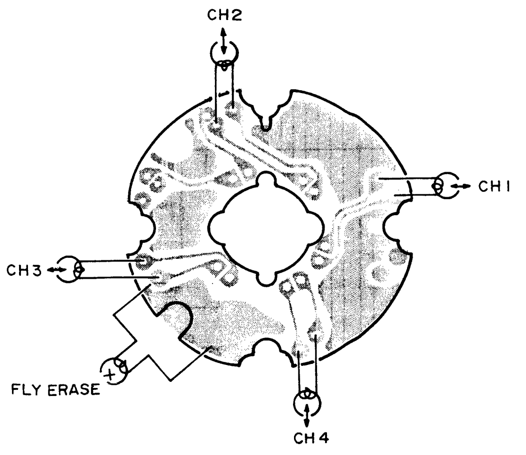
COMPONENT SIDE (A)


C
B
A
2
1
C118
C114
C117
C116
C119
L101
L104
L102
14
8
CCD PWB
YB20725-01-02
1 1
C320
C322
C120
IC302
CN101
C121
C321
L107
C123
L108
R116
L103
L109
C125
C308
L302
C307
R303
R301
C301
R202
C312
1
7
R313
L110
L301
C319
R306
R310
15
14
48
C205
R205
R204
R201
R206
R203
C314
R211
R210
R213
R212
C313
R305
C315
R309
C318
IC301
R312
R311
24
25
38
39
X201
R304
C317
R308
C316
R307
C306
C304
C303
C305
C302

PARTS LOCATION GUIDE <CCD BOARD>

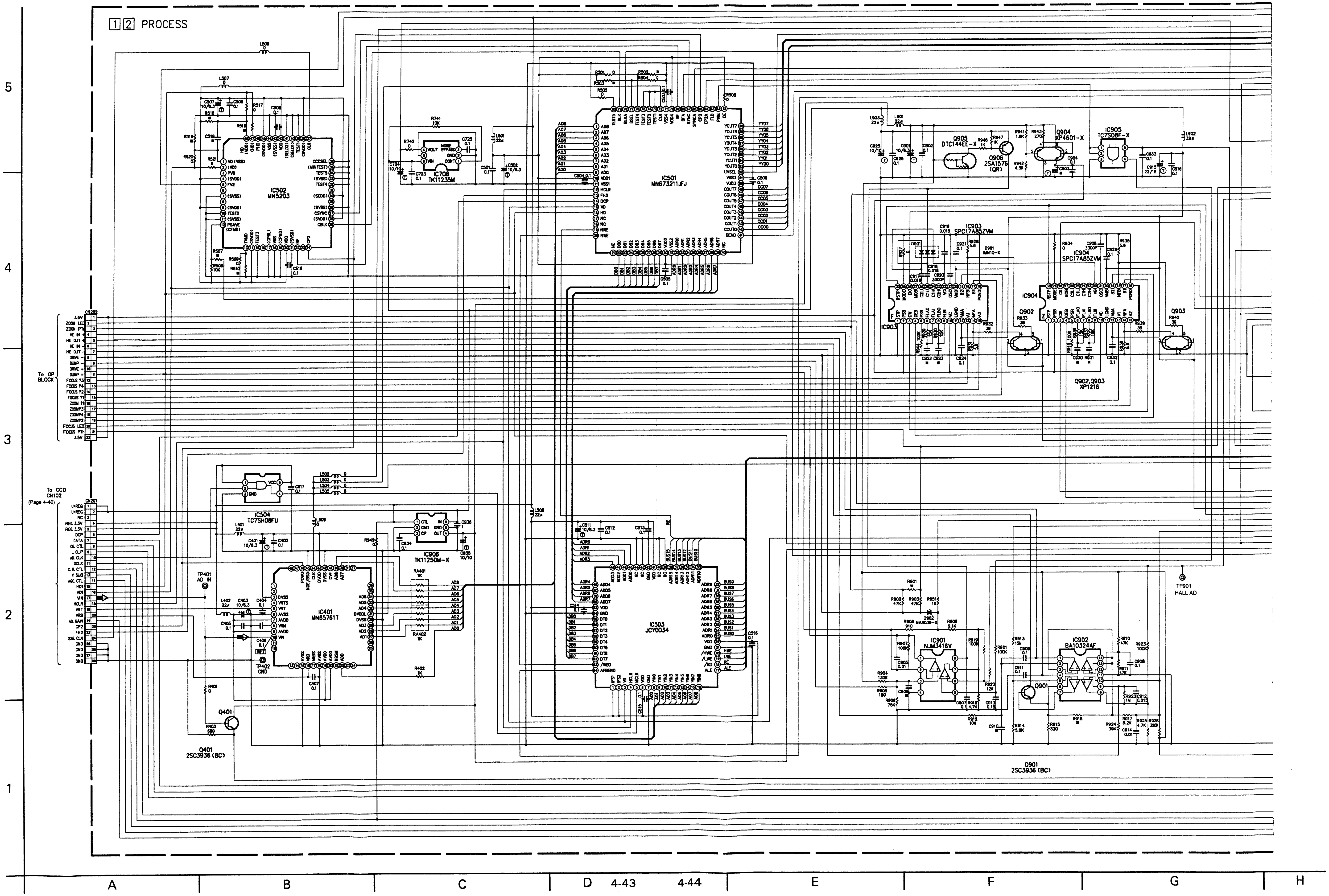
REF.No.	LOCATION
IC	
IC101	B-2B
IC201	B-1A
IC301	A-1A
IC302	A-2B
TRANSISTOR	
Q101	B-1B
Q102	B-1B
Q103	B-1B
DIODE	
D101	B-1B
D102	B-1B
D103	B-1B
D104	B-1B
D201	B-1A
RESISTOR	
R101	B-1B
R102	B-1B
R103	B-1B
R104	B-1B
R105	B-1B
R106	B-1B
R107	B-1B
R108	B-1B
R109	B-1B
R110	B-1B
R111	B-1C
R112	B-2B
R113	B-1C
R114	B-2B
R115	B-1B
R116	A-2A
R201	A-1A
R202	A-1A
R203	A-1A
R204	A-1A
R205	A-1A
R206	A-1A
R210	B-1A
R211	A-1A
R212	A-1A
R213	A-1A
R214	B-1A
R218	B-1A
R220	B-1A
R221	B-1A
R222	B-1A
R223	B-2A
R224	B-2A
R225	B-1A
R226	B-1A
R229	B-1A
R231	B-1A
R232	B-1B
R233	B-1B
R234	B-1A
R235	B-1B
R236	B-2A
R237	B-2A
R238	B-2A
R239	B-2A
R240	B-1A
R301	A-1A
R303	A-1A
R304	A-2A
R305	A-2A
R306	A-2A
R307	A-2A
R308	A-2A
R309	A-2A
R311	A-2A
R312	A-2A
R313	A-2A
CAPACITOR	
C101	B-1B
C102	B-2B
C103	B-1B
C104	B-1B
C105	B-1B
C106	B-1B
C107	B-1B
C108	B-1B
C109	B-1B
C110	B-1B
C111	B-1B
C112	B-1B
C113	B-1B
C114	A-1C
C115	B-1C
C116	A-1C
C117	A-1C
C118	A-2B
C119	A-1B
C120	A-2B
C121	A-2B
C123	A-2B
C124	B-2B
C125	A-2A
C201	B-1A
C202	B-1B
C203	B-1B
C204	B-2B
C205	A-1A
C206	B-2A
C207	B-1A
C301	A-1A
C302	A-1A
C303	A-1A
C304	A-1A
C305	A-1A
C306	A-2A
C307	A-1A
C308	A-1B
C309	B-2A
C310	B-2A
C311	B-2A
C312	A-1A
C313	A-2A
C314	A-2A
C315	A-2A
C316	A-2A
C317	A-2A
C318	A-2A
C319	A-2A
C320	A-2B
C321	A-2B
C322	A-2B
C323	B-2B
COIL	
L101	A-2B
L102	A-1B
L103	A-2A
L104	A-1B
L105	B-2B
L106	B-2B
L107	A-2B
L108	A-2A
L109	A-2A
L110	A-2A
L201	B-2B
L202	B-2B
L301	A-2A
L302	A-1B
CXO	
X201	A-1A
CONNECTOR	
CN101	A-2A
CN102	B-2A
CN103	B-2B
TEST PIN	
TP101	B-1B
TP102	B-1C
TP301	B-2A
TP302	B-2B
TP303	B-1A
TP304	B-2A

– UPPER DRUM –

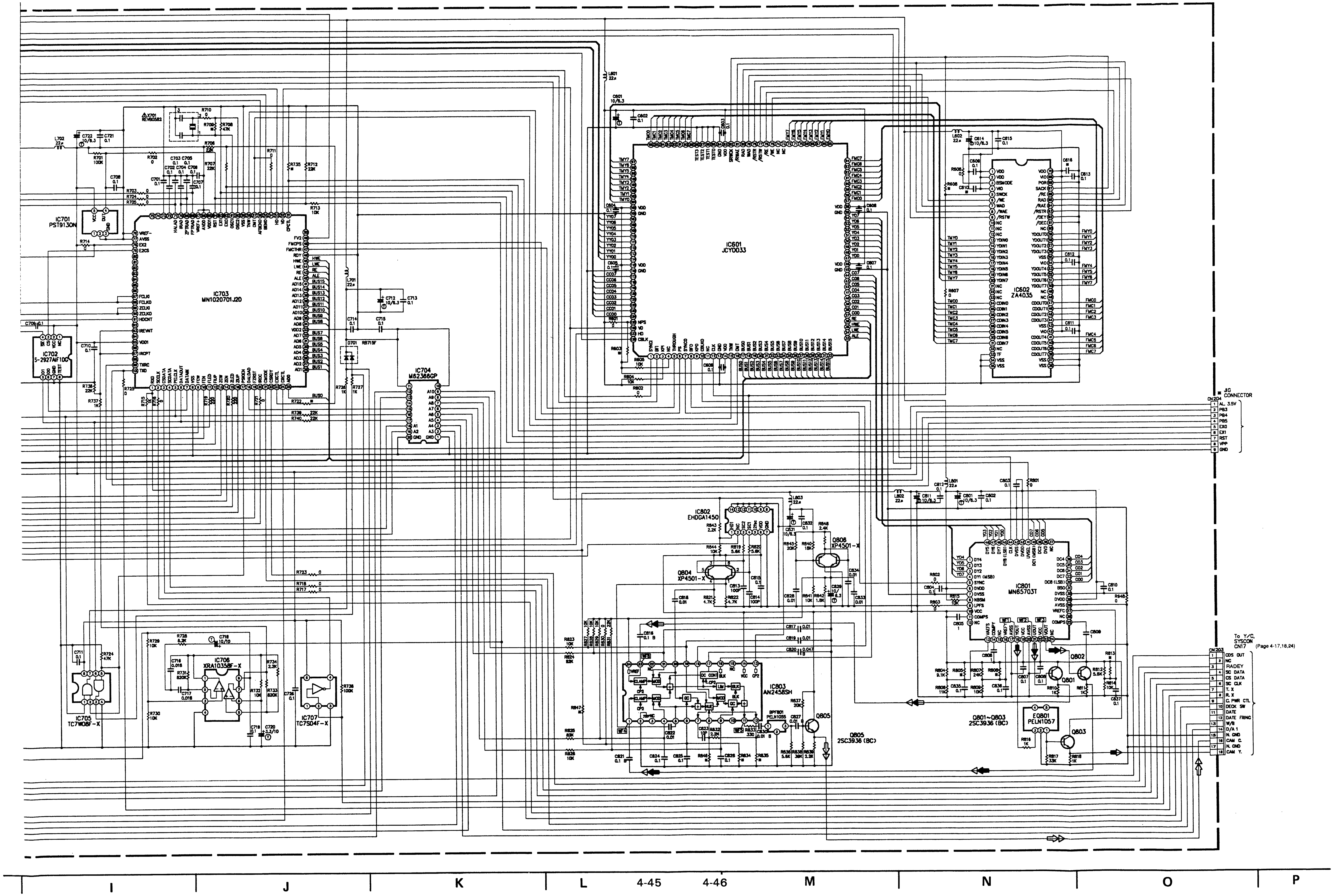

CH2
CH1
CH3
FLY ERASE
CH4

4 0 UPPER DRUM PWB

4.19 PROCESS SCHEMATIC DIAGRAM

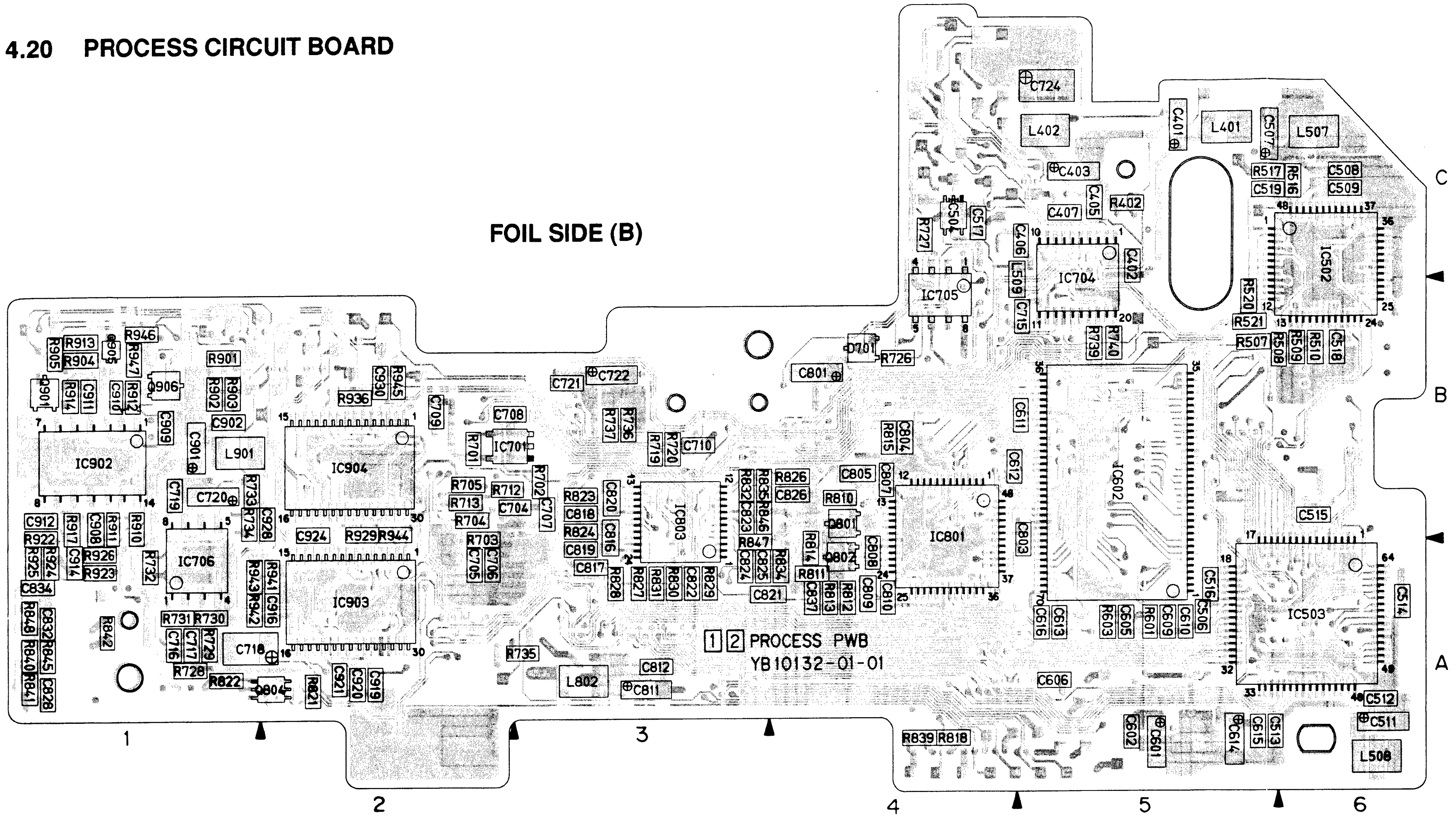

1 2 PROCESS
IC502 MN5203
IC708 TK11235M
IC501 MN673211FJ
IC905 TC7S08F-X
Q905 DTC144EE-X
Q906 2SA1576 (QR)
Q904 XP4601-X
IC903 SPC17AB5ZVM
IC904 SPC17AB5ZVM
D901 IMN10-X
Q902
Q903
Q902,Q903 XP1216
To OP BLOCK
CN202
To CCD CN102 (Page 4-40)
CN201
IC504 TC7SH08FU
IC906 TK11250M-X
IC401 MN85761T
TP401 AD. IN
TP402 GND
Q401
Q401 2SC3936 (BC)
IC503 JCY0034
IC901 NJM3416V
IC902 BA10324AF
D902 MA8039-X
Q901
Q901 2SC3936 (BC)
TP901 HALL AD
A
B
C
D
E
F
G
H
1
2
3
4
5

NOTE: Mark (※) is not used.

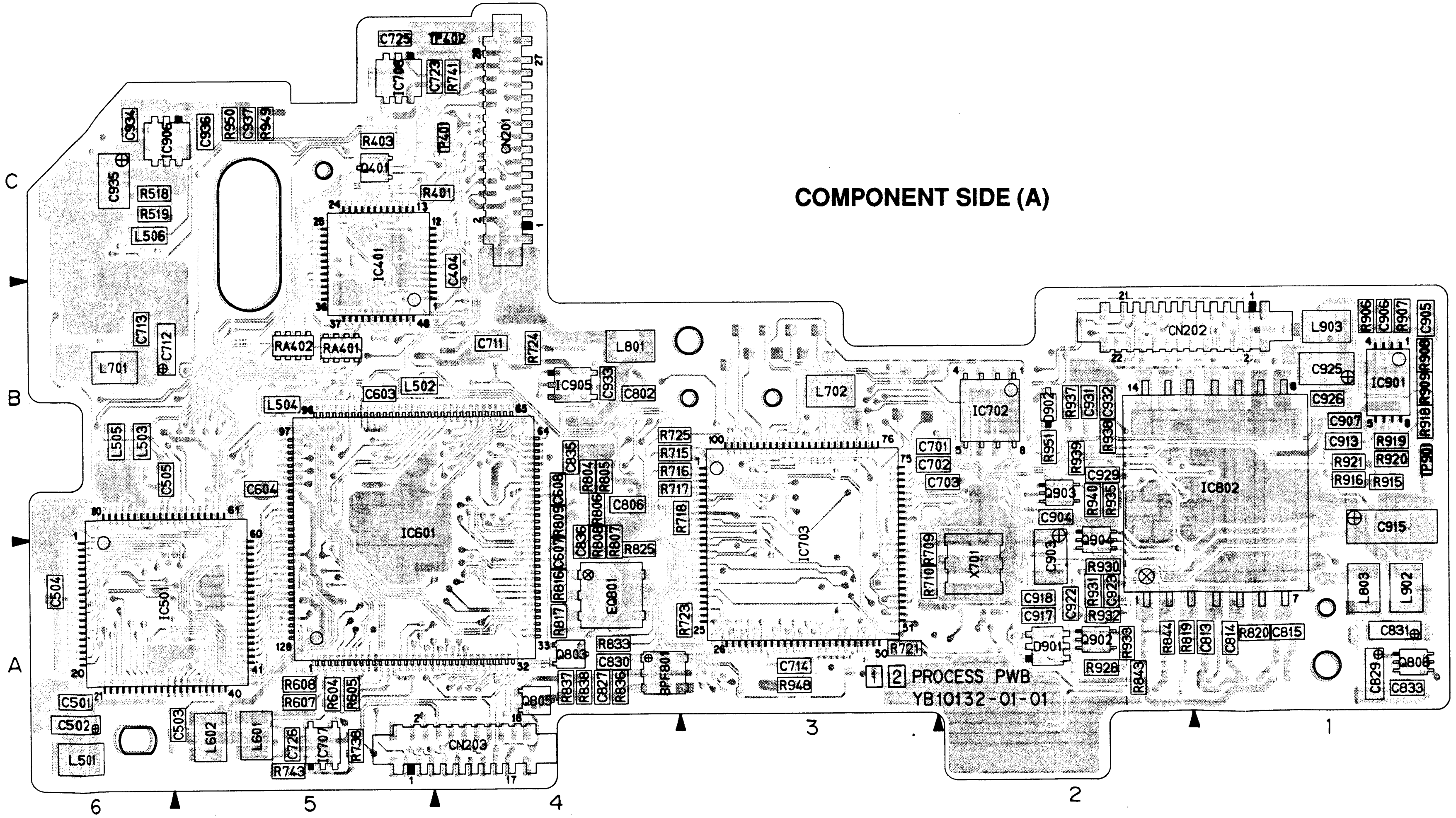

IC701
PST9130N
IC702
S-2927AIF10C
IC703
MN1020701J20
IC704
M6236BGP
IC705
TC7W08F-X
IC706
XRA10358F-X
IC707
TC7S04F-X
X701
REV80582
D701
RB715F
IC601
JCYD033
IC602
ZA4035
IC801
MN65703T
IC802
EHDGA1450
IC803
AN2458SH
Q804
XP4501-X
Q806
XP4501-X
Q805
2SC3936 (BC)
Q801~Q803
2SC3936 (BC)
Q802
Q803
EQ801
PELN1057
BPF801
PELN1055
※ JIG
CONNECTOR
CN204
1 AL. 3.5V
2 PB3
3 PB4
4 PB5
5 EX0
6 EX1
7 RST
8 VPP
9 GND
To Y/C,
SYSCON
CN17 (Page 4-17,18,24)
CN203
1 CDS OUT
2 NC
3 RADEY
4 SC DATA
5 CS DATA
6 SC CLK
7 T. X
8 R. X
9 C. PWR CTL
10 DECK SW
11 DATE
12 DATE FRING
13 W/B
14 D/A 1
15 N. GND
16 CAM C.
17 N. GND
18 CAM Y.
I
J
K
L
M
N
O
P

4.20 PROCESS CIRCUIT BOARD

FOIL SIDE (B)



COMPONENT SIDE (A)



PARTS LOCATION GUIDE <PROCESS BOARD>

REF.No.	LOCATION
IC	
IC401	A-5C
IC501	A-6A
IC502	B-6C
IC503	B-6A
IC504	B-4C
IC601	A-5A
IC602	B-5B
IC701	B-2B
IC702	A-2B
IC703	A-3A
IC704	B-5C
IC705	B-4B
IC706	B-1A
IC707	A-5A
IC708	A-3C
IC801	B-4B
IC802	A-1B
IC803	B-3B
IC901	A-1B
IC902	B-1B
IC903	B-2A
IC904	B-2B
IC905	A-6C
IC906	A-4B
TRANSISTOR	
Q401	A-5C
Q801	B-4B
Q802	B-4A
Q803	A-4A
Q804	B-2A
Q805	A-4A
Q806	A-1A
Q901	B-1B
Q902	A-2A
Q903	A-2B
Q904	A-2A
Q905	B-1B
Q906	B-1B
DIODE	
D701	B-4B
D901	A-2A
D902	A-2B
RESISTOR	
R401	A-4C
R402	B-5C
R403	A-5C
R507	B-5B
R508	B-6B
R509	B-6B
R510	B-6B
R516	B-6C
R517	B-5C
R518	A-6C
R519	A-6C
R520	B-5B
R521	B-5B
R603	B-5A
R604	A-5A
R605	A-5A
R607	A-5A
R608	A-5A
R701	B-2B
R702	B-3B
R703	B-2B
R704	B-2B
R705	B-2B
R709	A-3A
R710	A-3A
R712	B-2B
R713	B-2B
R715	A-4B
R716	A-4B
R717	A-4B
R718	A-4B
R719	B-3B
R720	B-3B
R721	A-3A
R723	A-4A
R724	A-4B
R725	A-4B
R726	B-4B
R727	B-4C
R728	B-1A
R729	B-1A
R730	B-1A
R731	B-1A
R732	B-1A
R733	B-1B
R734	B-1B
R735	B-3A
R736	B-3B
R737	B-3B
R738	A-5A
R739	B-5B
R740	B-5B
R741	A-4C
R743	A-5A
R804	A-4B
R805	A-4B
R806	A-4B
R807	A-4A
R808	A-4A
R809	A-4B
R810	B-4B
R811	B-4A
R812	B-4A
R813	B-4A
R814	B-4A
R815	B-4B
R816	A-4A
R817	A-4A
R818	B-4A
R819	A-2A
R820	A-1A
R821	B-2A
R822	B-1A
R823	B-3B
R824	B-3B
R825	A-4A
R826	B-4B
R827	B-3A
R828	B-3A
R829	B-3A
R830	B-3A
R831	B-3A
R832	B-3B
R833	A-4A
R834	B-4A
8R35	B-3B
R836	A-4A
R837	A-4A
R838	A-4A
R839	B-4A
R840	B-1A
R841	B-1A
R842	B-1A
R843	A-2A
R844	A-2A
R845	B-1A
R846	B-3B
R847	B-3B
R848	B-1A
R901	B-1B
R902	B-1B
R903	B-1B
R904	B-1B
R905	B-1B
R906	A-1B
R907	A-1B
R908	A-1B
R909	A-1B
R910	B-1B
R911	B-1B
R912	B-1B
R913	B-1B
R914	B-1B
R915	A-1B
R916	A-1B
R917	B-1B
R918	A-1B
R919	A-1B
R920	A-1B
R921	A-1B
R922	B-1B
R923	B-1B
R924	B-1B
R925	B-1B
R926	B-1B
R928	A-2A
R929	B-2B
R930	A-2A
R931	A-2A
R932	A-2A
R933	A-2A
R935	A-2B
R936	B-2B
R937	A-1B
R938	A-2B
R939	A-2B
R940	A-2B
R941	B-2A
R942	B-1A
R943	B-1A
R944	B-2B
R945	B-2B
R946	B-1B
R947	B-1B
R948	A-3A
R949	A-5C
R950	A-5C
R951	A-2B
NETWORK RESISTOR	
RA401	A-5B
RA402	A-5B
CAPACITOR	
C401	B-5C
C402	B-5C
C403	B-5C
C404	A-4C
C405	B-5C
C406	B-5C
C407	B-5C
C501	A-6A
C502	A-6A
C503	A-6A
C504	A-6A
C505	A-6B
C506	B-5A
C507	B-5C
C508	B-6C
C509	B-6C
C511	B-6A
C512	B-6A
C513	B-6A
C514	B-6A
C515	B-6B
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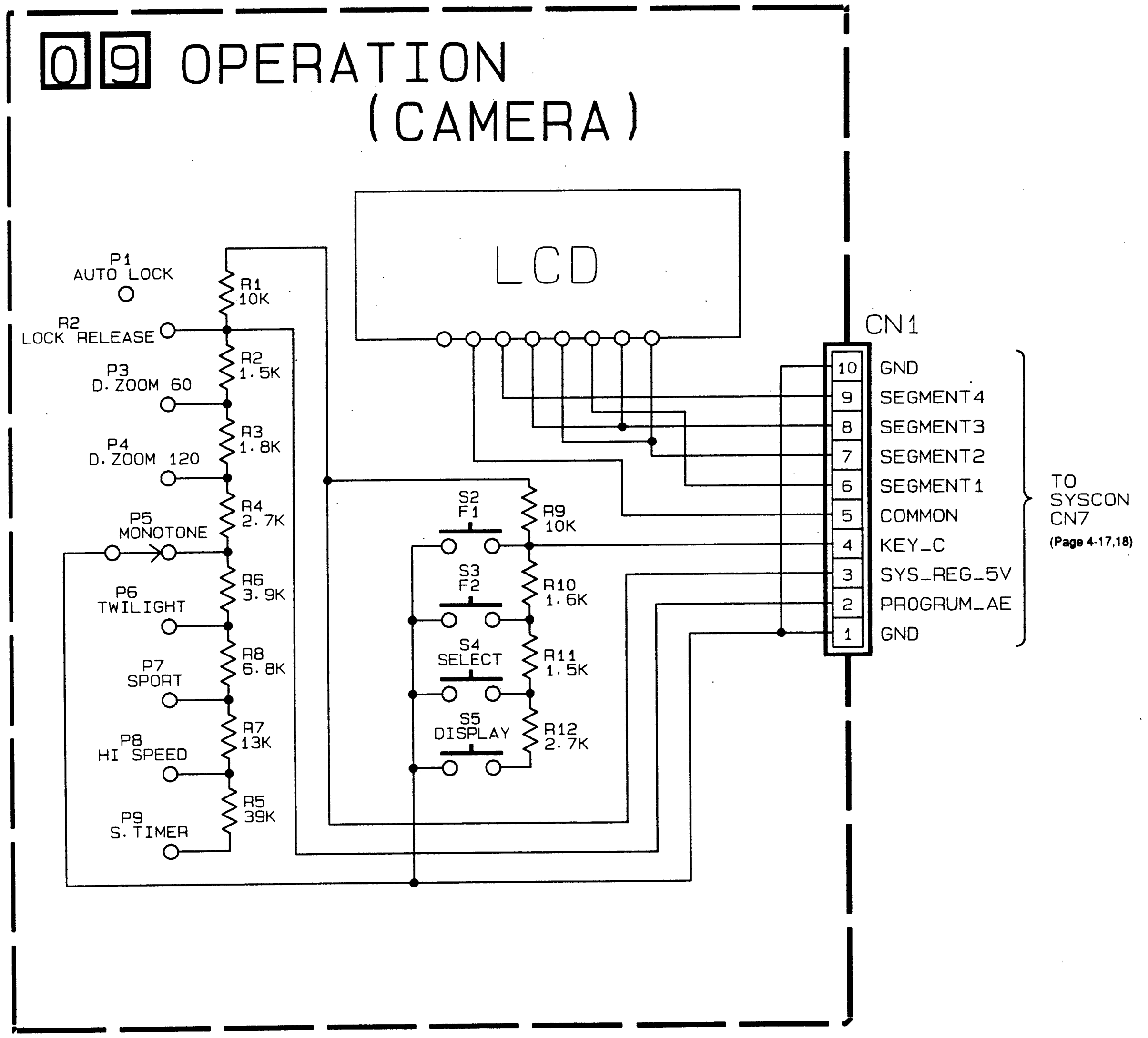
C519	B-5C
C601	B-5A
C602	B-5A
C603	A-5B
C604	A-5B
C605	B-5A
C606	B-5A
C607	A-4A
C608	A-4B
C609	B-5A
C610	B-5A
C611	B-4B
C612	B-4B
C613	B-5A
C614	B-5A
C615	B-5A
C616	B-5A
C701	A-3A
C702	A-3A
C703	A-3A
C704	B-3B
C705	B-2A
C706	B-2A
C707	B-3B
C708	B-3B
C709	B-2B
C710	B-3B
C711	A-4B
C712	A-6B
C713	A-6B
C714	B-3A
C715	B-4B
C716	B-1A
C717	B-1A
C718	B-1A
C719	B-1B
C720	B-1B
C721	B-3B
C722	B-3B
C723	A-4C
C724	B-5C
C725	A-5C
C726	A-5A
C801	B-4B
C802	A-4B
C803	B-5B
C804	B-4B
C805	B-4B
C806	A-4B
C807	B-4B
C808	B-4A
C809	B-4A
C810	B-4A
C811	B-3A
C812	B-3A
C813	A-1A
C814	A-1A
C815	A-1A
C816	B-3A
C817	B-3A
C818	B-3B
C819	B-3A
C820	B-3B
C821	B-4A
C822	B-3A
C823	B-3B
C824	B-3A
C825	B-3A
C826	B-4B
C827	A-4A
C828	B-1A
C829	A-1A
C830	A-4A
C831	A-1A
C832	B-1A
C833	A-1A
C834	B-1A
C835	A-4B
8C36	A-4A
C837	B-4A
C901	B-1B
C902	B-1B
C903	A-2A
C904	A-2B
C905	A-1B
C906	A-1B
C907	A-1B
C908	B-1B
C909	B-1B
C910	B-1B
C911	B-1B
C912	B-1B
C913	A-1B
C914	B-1A
C915	A-1A
C916	B-2A
C917	A-2A
C918	A-2A
C919	B-2A
C920	B-2A
C921	B-2A
C922	A-2A
C923	A-2A
C924	B-2B
C925	A-1B
C926	A-1B
C928	B-2B
C929	A-2B
C930	B-2B
C931	A-2B
C932	A-2B
C933	A-4B
C934	A-6C
C935	A-6C
C936	A-5C
C937	A-5C
COIL	
L401	B-5C
L402	B-5C
L501	A-6A
L502	A-5B
L503	A-6B
L504	A-5B
L505	A-6B
L506	A-6C
L507	B-6C
L508	B-6A
L509	B-4C
L601	A-5A
L602	A-5A
L701	A-6B
L702	A-3B
L801	A-4B
L802	B-3A
L803	A-1A
L901	B-1B
L902	A-1A
L903	A-1B
EQUALIZER	
EQ801	A-4A
BPF	
BPF801	A-4A
RESONATOR	
X701	A-2A
CONNECTOR	
CN201	A-4C
CN202	A-2B
CN203	A-4A
TEST PIN	
TP401	A-4C
TP402	A-4C
TP901	A-1B

4.21 OPERATION (CAMERA) SCHEMATIC DIAGRAM

NOTE: The schematic diagram is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

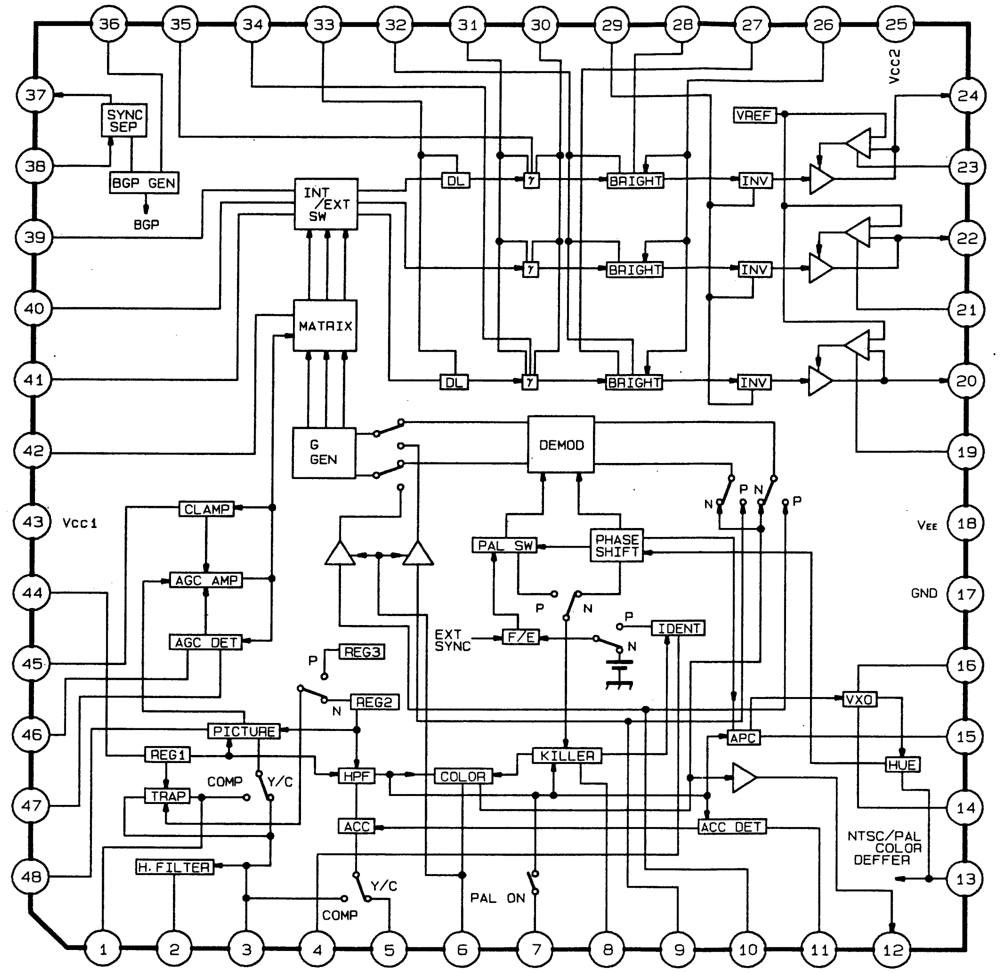


09 OPERATION (CAMERA)
LCD
P1 AUTO LOCK
R2 LOCK RELEASE
P3 D.ZOOM 60
P4 D.ZOOM 120
P5 MONOTONE
P6 TWILIGHT
P7 SPORT
P8 HI SPEED
P9 S.TIMER
R1 10K
R2 1.5K
R3 1.8K
R4 2.7K
R6 3.9K
R8 6.8K
R7 13K
R5 39K
S2 F1
S3 F2
S4 SELECT
S5 DISPLAY
R9 10K
R10 1.6K
R11 1.5K
R12 2.7K
CN1
10 GND
9 SEGMENT4
8 SEGMENT3
7 SEGMENT2
6 SEGMENT1
5 COMMON
4 KEY_C
3 SYS_REG_5V
2 PROGRUM_AE
1 GND
TO SYSCON CN7
(Page 4-17,18)

4.22 IC BLOCK DIAGRAM

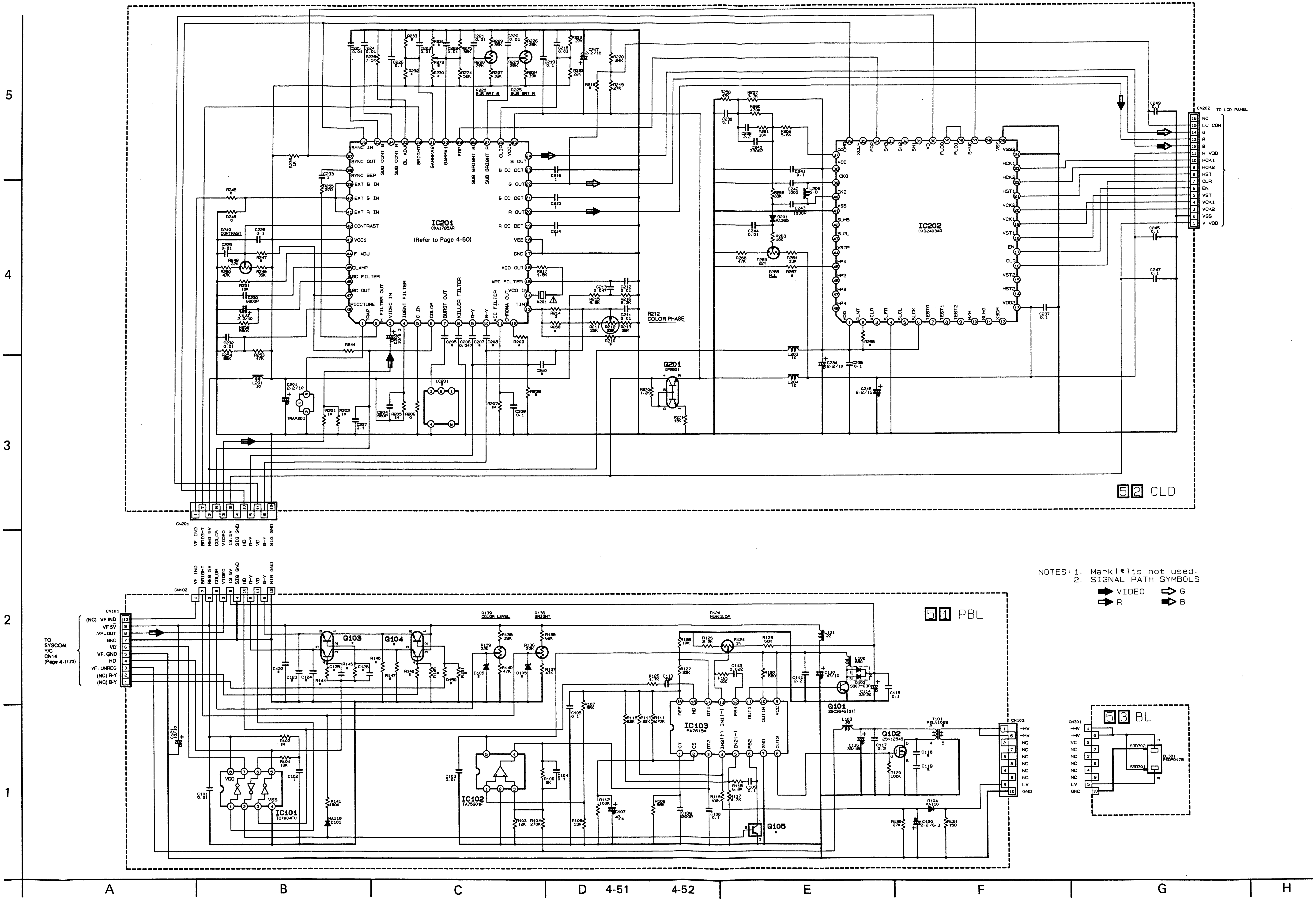
–CLD–

IC201
CXA1785AR



SYNC SEP
BGP GEN
BGP
INT /EXT SW
MATRIX
G GEN
DL
γ
BRIGHT
INV
VREF
Vcc2
DEMOD
CLAMP
AGC AMP
AGC DET
Vcc1
PAL SW
PHASE SHIFT
EXT SYNC
F/F
IDENT
REG3
REG2
PICTURE
REG1
TRAP
COMP
Y/C
HPF
COLOR
KILLER
ACC
H.FILTER
APC
VXO
HUE
ACC DET
PAL ON
P
N
VEE
GND
NTSC/PAL COLOR DEFFER
1 2 3 4 5 6 7 8 9 10 11 12
13 14 15 16 17 18 19 20 21 22 23 24
25 26 27 28 29 30 31 32 33 34 35 36
37 38 39 40 41 42 43 44 45 46 47 48

4.23 ELECTRONIC VIEWFINDER SCHEMATIC DIAGRAM [for GR-AX900U/U(C)]



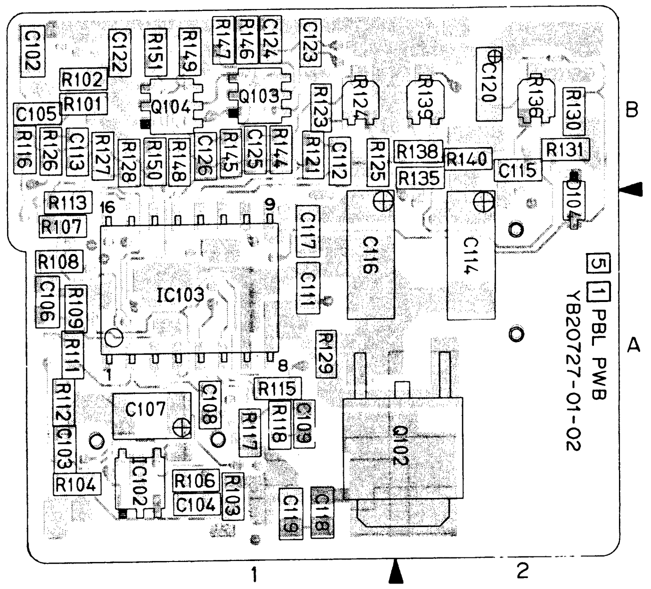
5
4
3
2
1
IC201
CXA1785AR
(Refer to Page 4-50)
IC202
CXD2403AR
R212
COLOR PHASE
Q201
XP2501
CN202 TO LCD PANEL
NC
LC COM
G
R
B
H VDD
HCK1
HCK2
HST
CLR
EN
VST
VCK1
VCK2
VSS
V VDD
52 CLD
CN201
VF IND
BRIGHT
REG 5V
COLOR
VIDEO
13.5V
SIG GND
HD
R-Y
VD
B-Y
SIG GND
CN102
CN101
TO SYSCON. Y/C CN14 (Page 4-17,23)
(NC) VF IND
VF 5V
VF_OUT
GND
VD
VF. GND
HD
VF. UNREG
(NC) R-Y
(NC) B-Y
51 PBL
Q103
Q104
R139 COLOR LEVEL
R136 BRIGHT
R124 REG13.5V
IC101
TC7W04FU
IC102
TA75801F
IC103
FA7615M
Q101
2SC3646(ST)
Q102
2SK1254S
Q105
T101
PFLN1069
CN103
+HV
-HV
NC
LV
GND
53 BL
CN301
SPD302
SPD301
BL301
PEDP0176

NOTES: 1. Mark(*) is not used.
2. SIGNAL PATH SYMBOLS
➡ VIDEO ⇨ G
➡ R ➡ B

4.24 ELECTRONIC VIEWFINDER CIRCUIT BOARD [for GR-AX900U/U(C)]

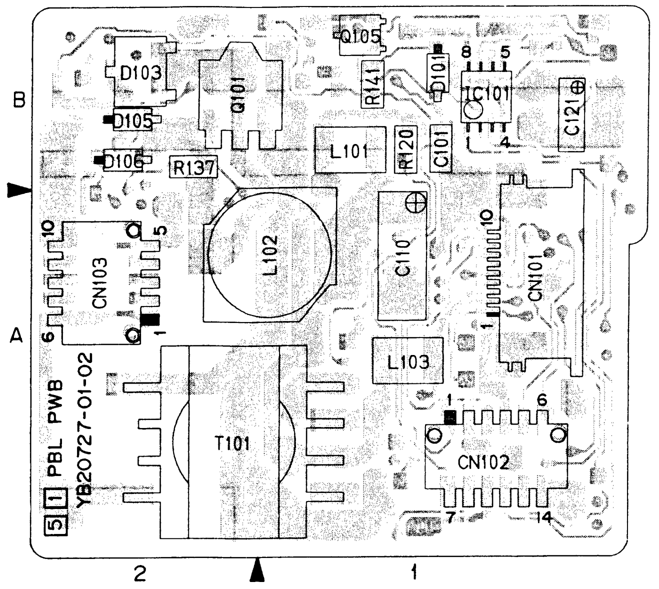
– PBL –

FOIL SIDE (B)



C102
R102
R101
C105
R116
R126
C113
R127
R128
R150
R148
C126
R145
C125
R144
Q104
Q103
C122
R151
R149
R147
R146
C124
C123
R123
R121
C112
R125
R124
R139
R138
R135
R140
C120
R136
R130
R131
C115
D104
R113
R107
R108
C106
R109
R111
R112
C103
R104
IC103
C117
C111
C116
C114
R129
C107
C108
R115
R118
C109
R117
IC102
R106
C104
R103
C119
C118
Q102
5 1 PBL PWB
YB20727-01-02
16
9
8
1
B
A
1
2

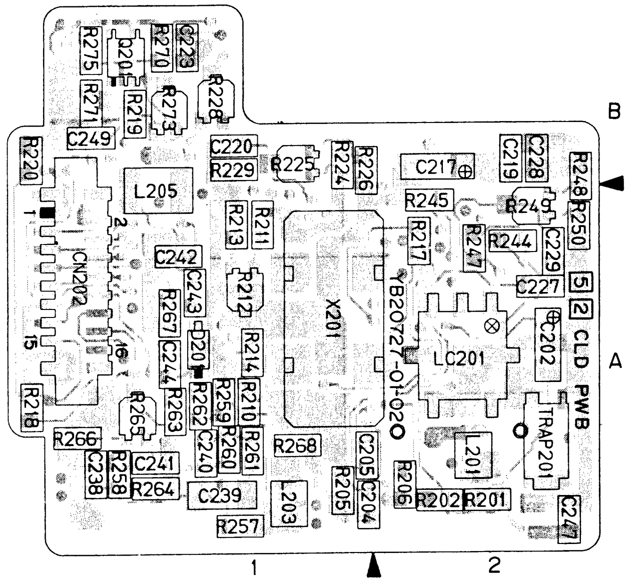
COMPONENT SIDE (A)



Q105
D103
D105
D106
Q101
R137
R141
D101
IC101
8
5
4
C121
L101
R120
C101
L102
C110
CN101
CN103
10
5
1
6
L103
T101
CN102
1
6
7
14
5 1 PBL PWB
YB20727-01-02
B
A
2
1

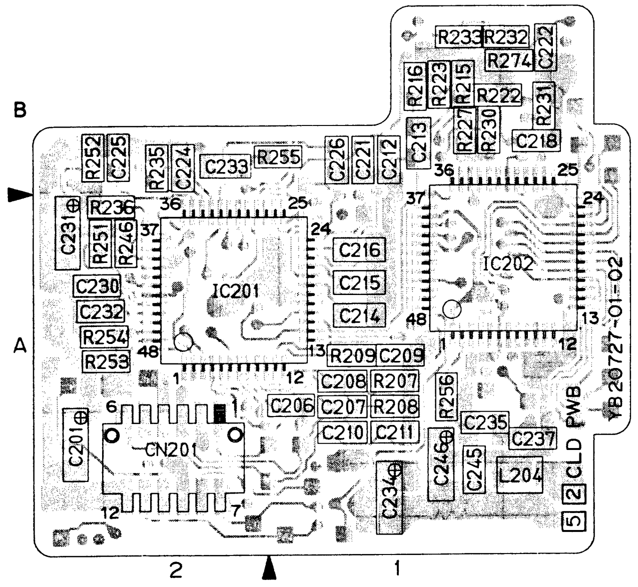
– CLD –

FOIL SIDE (B)



R275
R271
D201
R219
R270
R273
C223
R228
C249
R220
L205
C220
R229
R225
R224
R226
C217
C219
C228
R248
R250
R245
R249
R244
R247
R217
C229
C227
C202
CN202
C242
R267
C243
D201
R213
R211
R212
R214
R210
R261
R259
R260
R262
C240
R263
C244
X201
LC201
L201
TRAP201
R265
R266
C241
C238
R258
R264
C239
R257
R268
L203
R205
C205
C204
R206
R202
R201
C247
5 2 CLD PWB
YB20727-01-02
B
A
1
2

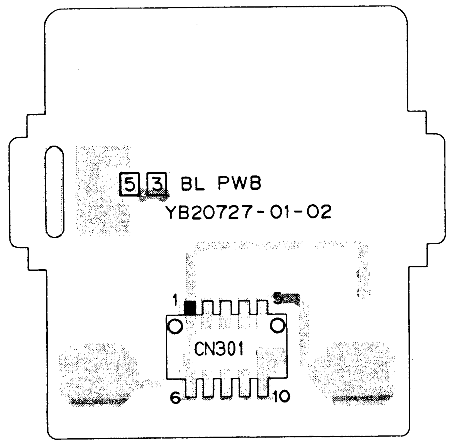
COMPONENT SIDE (A)



R233
R232
C222
R216
R223
R215
R274
R222
R227
R230
R231
C218
R252
C225
R235
C224
C233
R255
C226
C221
C212
C213
R236
R251
R246
C231
C216
C215
C214
C230
C232
R254
R253
IC201
IC202
36
25
37
24
48
13
1
12
R209
C209
C206
C207
R208
C208
R207
C210
C211
R256
C235
C237
C201
CN201
C234
C246
C245
L204
6
1
12
7
5 2 CLD PWB
YB20727-01-02
B
A
2
1

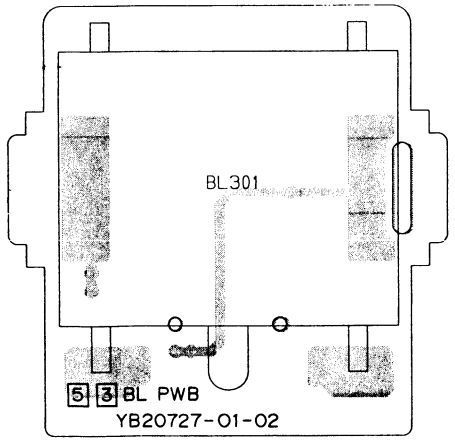
– BL –

FOIL SIDE (B)



5 3 BL PWB
YB20727-01-02
CN301
1
5
6
10

COMPONENT SIDE (A)



BL301
5 3 BL PWB
YB20727-01-02

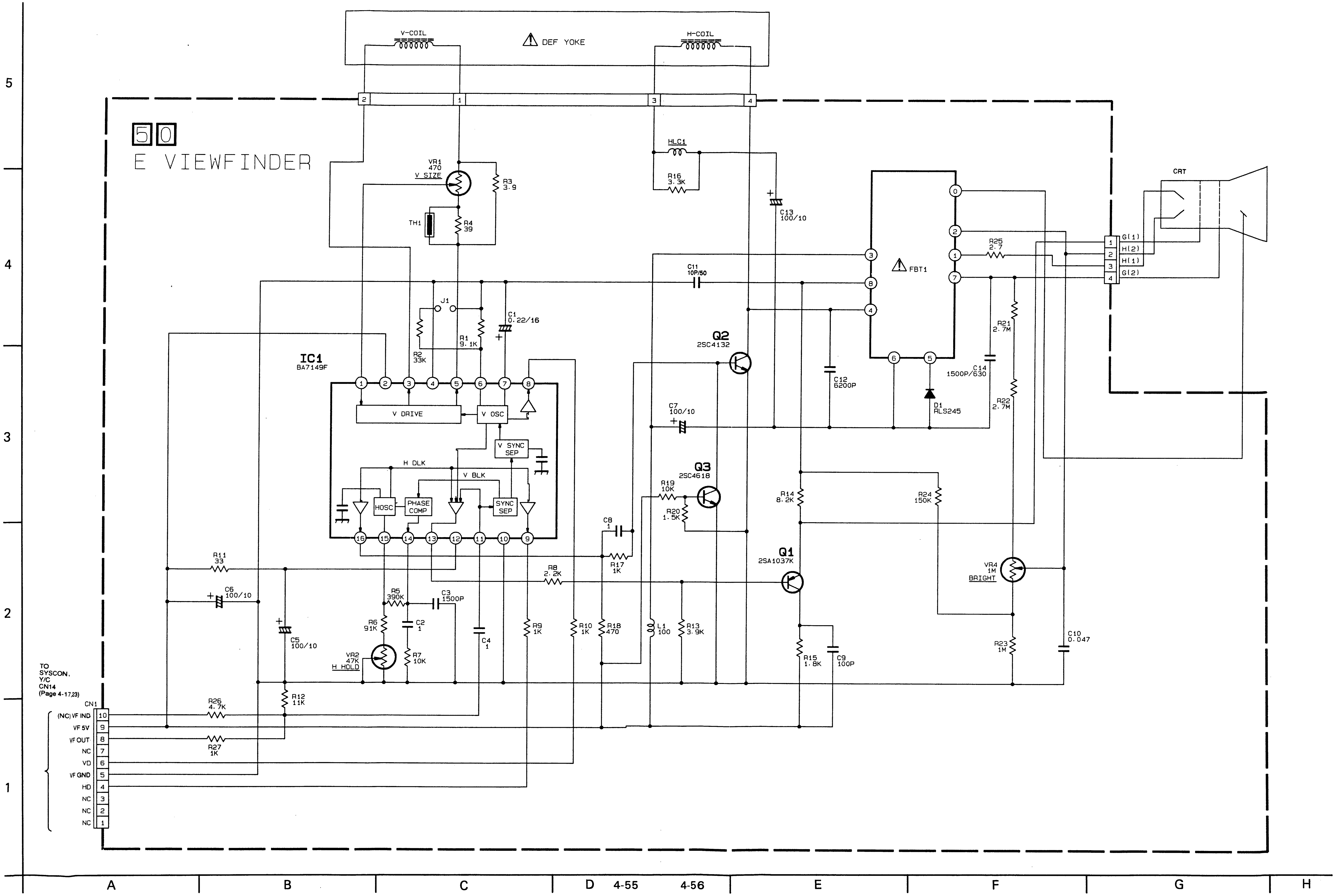
PARTS LOCATION GUIDE <PBL BOARD>

REF.No.	LOCATION
IC	
IC101	A-1B
IC102	B-1A
IC103	B-1A
TRANSISTOR	
Q101	A-2B
Q102	B-2A
Q103	B-1B
Q104	B-1B
Q105	A-1B
DIODE	
D101	A-1B
D103	A-2B
D104	B-2A
D105	A-2B
D106	A-2B
RESISTOR	
R101	B-1B
R102	B-1B
R103	B-1A
R104	B-1A
R106	B-1A
R107	B-1A
R108	B-1A
R109	B-1A
R111	B-1A
R112	B-1A
R113	B-1A
R115	B-1A
R116	B-1B
R117	B-1A
R118	B-1A
R120	A-1B
R121	B-1B
R123	B-1B
R124	B-1B
R125	B-1B
R126	B-1B
R127	B-1B
R128	B-1B
R129	B-1A
R130	B-2B
R131	B-2B
R135	B-2B
R136	B-2B
R137	A-2B
R138	B-2B
R139	B-2B
R140	B-2B
R141	A-1B
R144	B-1B
R145	B-1B
R146	B-1B
R147	B-1B
R148	B-1B
R149	B-1B
R150	B-1B
R151	B-1B
CAPACITOR	
C101	A-1B
C102	B-1B
C103	B-1A
C104	B-1A
C105	B-1B
C106	B-1A
C107	B-1A
C108	B-1A
C109	B-1A
C110	A-1A
C111	B-1A
C112	B-1B
C113	B-1B
C114	B-2A
C115	B-2B
C116	B-1A
C117	B-1A
C118	B-1A
C119	B-1A
C120	B-2B
C121	A-1B
C122	B-1B
C123	B-1B
C124	B-1B
C125	B-1B
C126	B-1B
COIL	
L101	A-1B
L102	A-1A
L103	A-1A
SW TRANS	
T101	A-2A
CONNECTOR	
CN101	A-1A
CN102	A-1A
CN103	A-2A

PARTS LOCATION GUIDE <CLD BOARD>

REF.No.	LOCATION
IC	
IC201	A-2A
IC202	A-1A
TRANSISTOR	
Q201	B-1B
DIODE	
D201	B-1A
RESISTOR	
R201	B-2A
R202	B-2A
R205	B-1A
R206	B-2A
R207	A-1A
R208	A-1A
R209	A-1A
R210	B-1A
R211	B-1A
R212	B-1A
R213	B-1A
R214	B-1A
R215	A-1B
R216	A-1B
R217	B-2A
R218	B-1A
R219	B-1B
R220	B-1B
R222	A-1B
R223	A-1B
R224	B-1B
R225	B-1B
R226	B-1B
R227	A-1B
R228	B-1B
R229	B-1B
R230	A-1B
R231	A-1B
R232	A-1B
R233	A-1B
R235	A-2B
R236	A-2A
R244	B-2A
R245	B-2A
R246	A-2A
R247	B-2A
R248	B-2B
R249	B-2A
R250	B-2A
R251	A-2A
R252	A-2B
R253	A-2A
R254	A-2A
R255	A-1B
R256	A-1A
R257	B-1A
R258	B-1A
R259	B-1A
R260	B-1A
R261	B-1A
R262	B-1A
R263	B-1A
R264	B-1A
R265	B-1A
R266	B-1A
R267	B-1A
R268	B-1A
R270	B-1B
R271	B-1B
R273	B-1B
R274	A-1B
R275	B-1B
CAPACITOR	
C201	A-2A
C202	B-2A
C204	B-1A
C205	B-1A
C206	A-1A
C207	A-1A
C208	A-1A
C209	A-1A
C210	A-1A
C211	A-1A
C212	A-1B
C213	A-1B
C214	A-1A
C215	A-1A
C216	A-1A
C217	B-2B
C218	A-1B
C219	B-2B
C220	B-1B
C221	A-1B
C222	A-1B
C223	B-1B
C224	A-2B
C225	A-2B
C226	A-1B
C227	B-2A
C228	B-2B
C229	B-2A
C230	A-2A
C231	A-2A
C232	A-2A
C233	A-2B
C234	A-1A
C235	A-1A
C237	A-1A
C238	B-1A
C239	B-1A
C240	B-1A
C241	B-1A
C242	B-1A
C243	B-1A
C244	B-1A
C245	A-1A
C246	A-1A
C247	B-2A
C249	B-1B
COIL	
L201	B-2A
L203	B-1A
L204	A-1A
L205	B-1B
TRAP	
TRAP201	B-2A
RESONATOR	
LC201	B-2A
CONNECTOR	
CN201	A-2A
CN202	B-1A

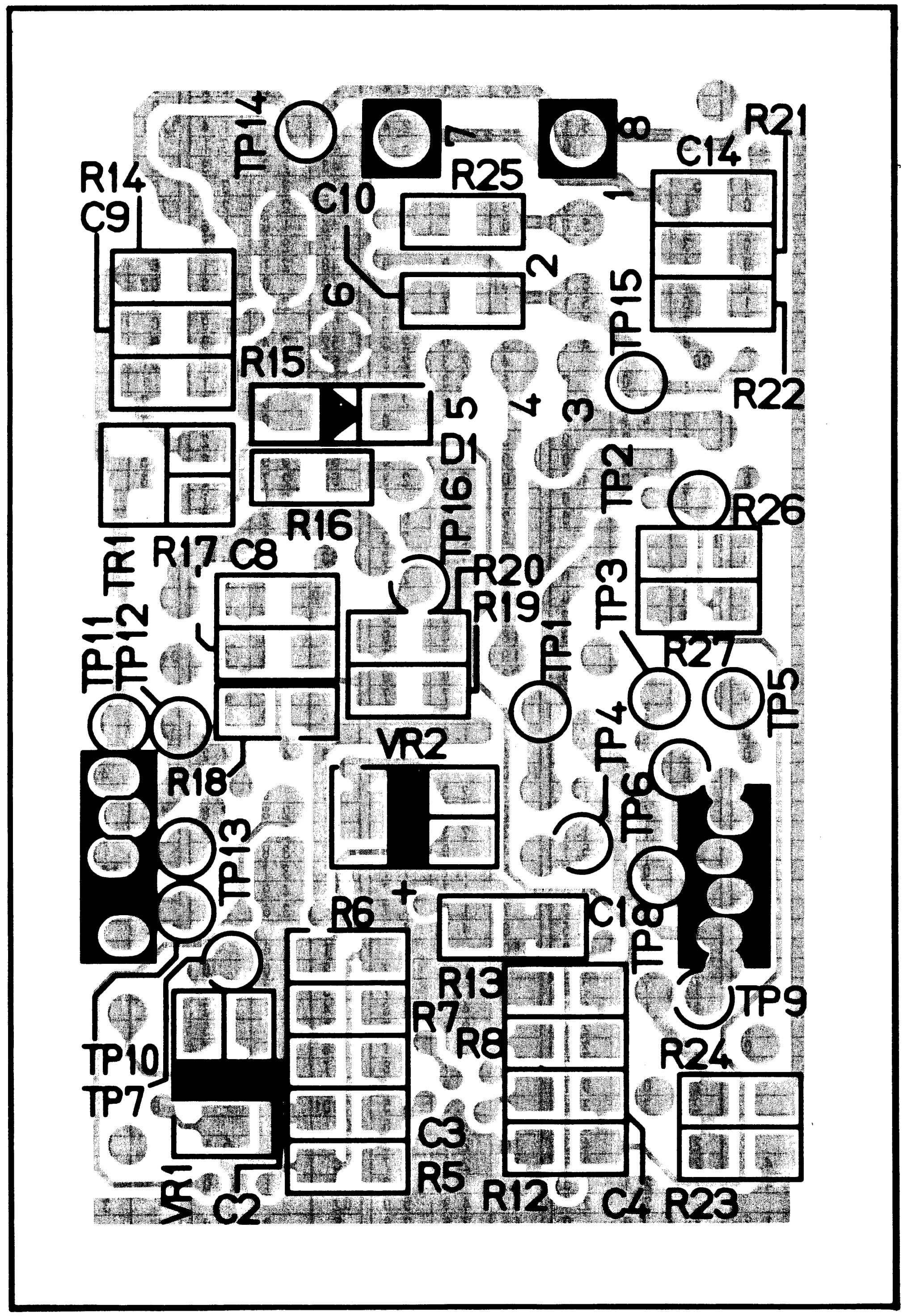
4.25 ELECTRONIC VIEWFINDER SCHEMATIC DIAGRAM [for GR-AX800U/U(C)]



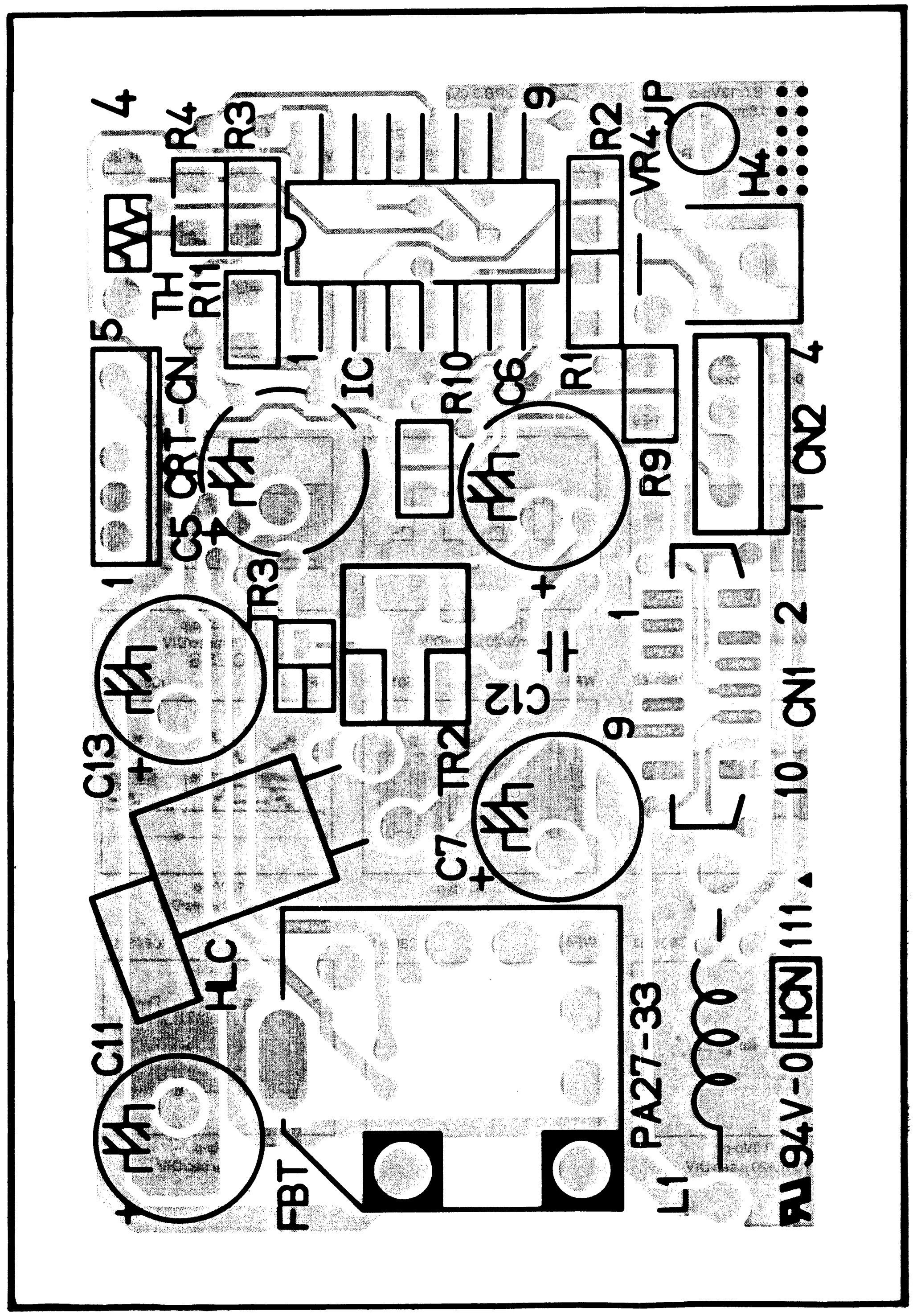
V-COIL
DEF YOKE
H-COIL
50
E VIEWFINDER
VR1 470 V SIZE
R3 3.9
TH1
R4 39
HLC1
R16 3.3K
C13 100/10
FBT1
CRT
R25 2.7
G(1)
H(2)
H(1)
G(2)
C11 10P/50
J1
C1 0.22/16
R1 9.1K
R2 33K
IC1 BA7149F
V DRIVE
V OSC
V SYNC SEP
H DLK
V BLK
HOSC
PHASE COMP
SYNC SEP
Q2 2SC4132
C12 6200P
D1 RLS245
R21 2.7M
C14 1500P/630
R22 2.7M
C7 100/10
Q3 2SC4618
R19 10K
R20 1.5K
R14 8.2K
R24 150K
C8 1
R17 1K
Q1 2SA1037K
R11 33
R8 2.2K
VR4 1M BRIGHT
C6 100/10
R5 390K
C3 1500P
R6 91K
C2 1
C5 100/10
R9 1K
R10 1K
R18 470
L1 100
R13 3.9K
C4 1
R23 1M
C10 0.047
VR2 47K H HOLD
R7 10K
R15 1.8K
C9 100P
TO SYSCON. Y/C CN14 (Page 4-17,23)
CN1
R26 4.7K
R12 11K
R27 1K
(NC) VF IND 10
VF 5V 9
VF OUT 8
NC 7
VD 6
VF GND 5
HD 4
NC 3
NC 2
NC 1
5
4
3
2
1
A
B
C
D
E
F
G
H

4.26 ELECTRONIC VIEWFINDER CIRCUIT BOARD [for GR-AX800U/U(C)]

FOIL SIDE (B)


TP14
7
8
R21
C14
R14
C9
C10
R25
1
2
6
TP15
R15
D1
5
4
3
R22
TP16
TP2
R26
R16
TR1
R17
C8
R20
R19
TP3
TP1
R27
TP11
TP12
TP4
TP5
VR2
R18
TP6
TP13
R6
C1
TP8
R13
R7
R8
TP9
R24
TP10
TP7
C3
R5
R12
C4
R23
VR1
C2

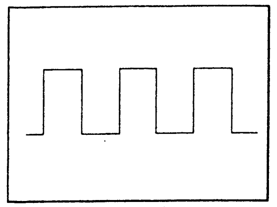
COMPONENT SIDE (A)


4
R4
R3
9
R2
VR4
JP
H
TH
R11
5
CRT-CN
IC
R10
C6
R1
4
CN2
1
C5
R9
R3
1
2
C12
CN1
C13
TR2
9
10
C7
HLC
111
HCN
C11
PA27-33
94V-0
FBT
L1

4.27 WAVEFORMS

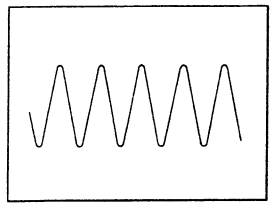
— SYSCON —

WF1 IC1-89



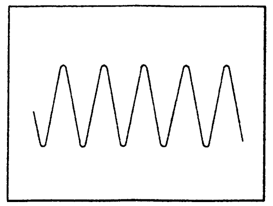
REC/PB 0.2Vp-p
10mV/0.5msec/DIV

WF2 IC1-90



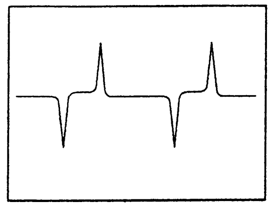
REC/PB 0.13Vp-p
50mV/0.5msec/DIV

WF3 IC1-91



REC/PB 3.0Vp-p
0.1V/0.2msec/DIV

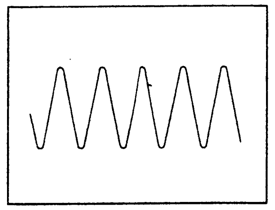
WF4 IC1-94



PB 1.5Vp-p
50mV/2msec/DIV

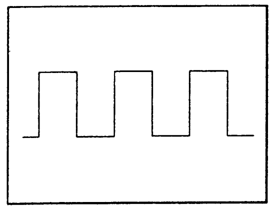
— MDA —

WF1 TP301 DRUM FG



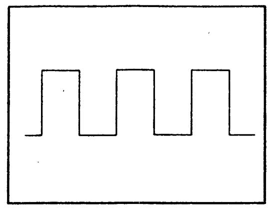
REC/PB 1.3Vp-p
50mV/1msec/DIV

WF2 TP303 DRUM PG



REC/PB0.2Vp-p
10mV/0.5msec/DIV

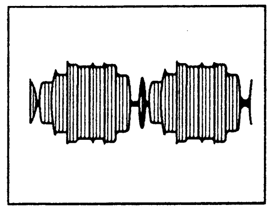
WF3 TP351 CAPSTAN FG



REC/PB3.0Vp-p
0.1V/0.2msec/DIV

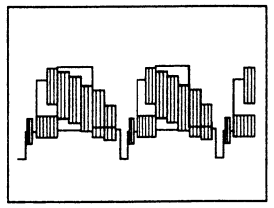
— Y/C —

WF1 IC501-20



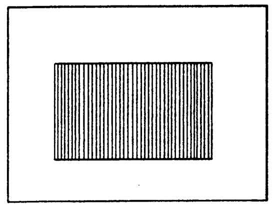
REC1.0Vp-p
50mV/20μ sec/DIV

WF2 IC501-27



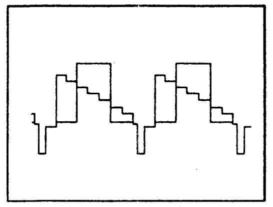
REC/PB2.8Vp-p
0.1mV/20μ sec/DIV

WF3 IC501-29



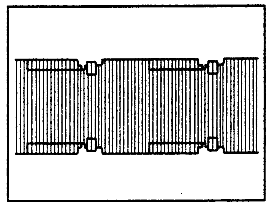
REC/PB1.4Vp-p
50mV/20μ sec/DIV

WF4 IC501-35



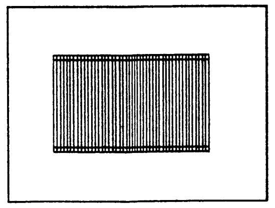
REC1.0Vp-p
50mV/20μ sec/DIV

WF5 IC501-58



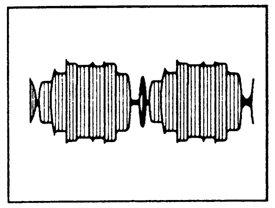
PB0.75Vp-p
20mV/5msec/DIV

WF6 IC501-59



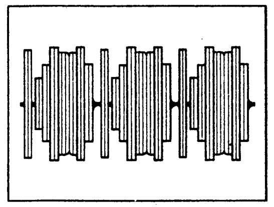
REC1.2Vp-p
20mV/0.5μ sec/DIV

WF7 IC501-60



PB0.13Vp-p
5mV/20μ sec/DIV

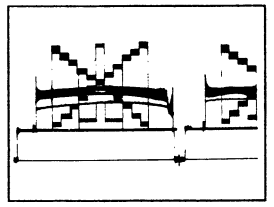
WF8 IC501-62



REC0.65Vp-p
20mV/20μ sec/DIV

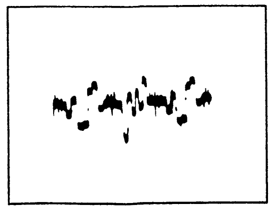
— PROCESS —

WF1 IC801-18



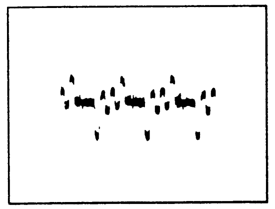
1.2Vp-p
20mV/10μ sec/DIV

WF2 IC801-21



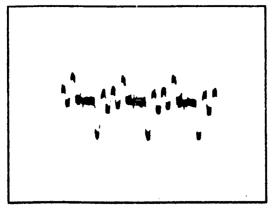
0.26Vp-p
10mV/20μ sec/DIV

WF3 IC801-23



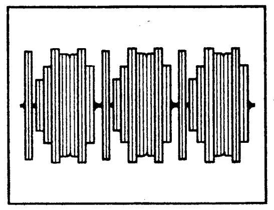
0.3Vp-p
10mV/20μ sec/DIV

WF4 IC803-1



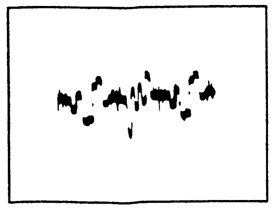
0.3Vp-p
10mV/20μ sec/DIV

WF5 IC803-11



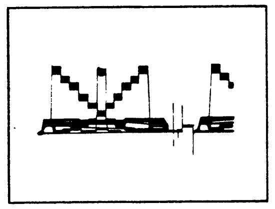
1.1Vp-p
20mV/20μ sec/DIV

WF6 IC803-23



0.26Vp-p
10mV/20μ sec/DIV

WF7 IC401-10



1.6Vp-p
50mV/10μ sec/DIV

4.28 VOLTAGE CHARTS

<MAIN>

MODE /PIN	REC	PLAY
IC1		
1	5.1	5.1
2	1.4	1.4
3	1.8	1.8
4	5.1	5.1
5	5.0	4.6
6	0	0
7	5.0	5.0
8	5.0	5.0
9	4.2	2.0
10	2.5	2.0
11	4.9	4.9
12	0.9	2.9
13	0	0
14	5.1	5.0
15	0	5.1
16	5.1	5.0
17	5.1	5.1
18	0	0
19	0	5.1
20	0.5	0
21	0.5	0.5
22	4.0	2.0
23	0	5.1
24	0.5	0.8
25	1.8	5.1
26	2.0	3.7
27	0	0
28	5.1	2.0
29	1.4	3.2
30	0	5.1
31	0	5.1
32	0	0
33	0	0
34	0	0
35	0	5.1
36	5.1	0
37	5.1	0
38	5.1	5.1
39	5.1	0
40	0	0
41	0	0
42	0	0
43	5.1	5.1
44	0	0
45	5.0	5.1
46	5.0	5.1
47	0	0
48	0	0
49	5.0	5.1
50	2.3	2.3
51	2.3	2.4
52	0	0
53	0	0
54	1.0	0.9
55	1.0	1.0
56	4.9	5.0
57	4.9	4.9
58	0	0
59	0	0
60	2.3	-
61	0	0
62	0	0
63	4.9	4.9
64	4.9	4.9
65	4.9	4.9
66	0	5.0
67	5.1	5.0
68	5.1	0
69	-	3.0
70	0	5.0
71	0	0
72	0	0
73	0	5.1
74	0	5.1
75	5.1	0
76	0	0
77	0	0
78	-	4.2
79	5.0	4.9
80	5.0	5.0
81	0	0
82	-	-
83	-	0
84	5.0	5.0
85	-	3.5
86	0.4	0
87	5.1	5.1
88	5.0	5.0
89	0	0
90	2.5	2.5
91	2.5	2.5
92	2.5	2.4
93	0	0
94	2.7	2.5
95	2.3	2.3
96	2.5	2.4
97	2.5	2.4
98	2.5	2.4
99	0	0
100	2.3	0
101	2.2	0
102	0	0
103	0	0
104	5.1	5.1
105	4.9	4.9
106	0	0
107	-	-
108	-	-
109	2.0	0.9
110	4.9	0
111	3.0	3.0
112	0	0
113	3.4	3.5
114	2.6	2.6
115	2.4	2.4
116	4.9	4.9
117	3.6	3.6
118	4.9	4.9
119	4.9	4.9
120	4.9	4.9
121	4.7	4.6
122	4.6	4.5
123	0.4	0
124	2.2	2.0
125	0	0
126	0	0
127	0	0
128	0	0
IC2		
1	4.9	4.9
2	-	-
3	-	-
4	4.9	4.9
5	4.9	4.9
6	0	0
7	1.9	1.9
8	1.9	1.9
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	4.9	4.9
20	4.4	4.4
IC3		
1	2.4	1.8
2	2.2	1.6
3	2.1	1.6
4	3.0	-
5	5.0	5.0
6	0	0
7	0	0
8	5.0	5.0
9	0	0
10	0	0
11	5.0	5.0
12	5.0	5.0
13	0	0
14	5.1	5.1
IC4		
1	0	0
2	5.1	5.1
3	0.5	0.5
4	5.1	5.1
5	0.4	0.5
6	5.1	5.1
7	0	0
8	-	-
9	-	-
10	-	-
11	-	-
12	0	5.1
13	5.1	0
14	5.1	5.1
IC5		
1	0	0
2	5.0	5.0
3	3.0	3.0
4	5.0	5.0
5	5.1	5.1
6	5.1	5.1
7	7.1	7.2
8	5.1	5.1
IC6		
1	0	0
2	6.8	6.8
3	4.9	4.9
4	0	0
5	0	0
6	4.0	4.0
7	0	0
8	0	0
IC7		
1	-	-
2	0	0
3	0	0
4	0	0
5	4.9	4.9
IC301		
1	4.9	4.9
2	0	0
3	2.4	2.4
4	2.4	2.4
5	2.4	2.4
6	1.7	1.8
7	1.2	1.2
8	4.2	4.2
9	1.1	1.1
10	5.1	5.1
11	0.7	0.7
12	1.5	1.4
13	2.3	2.2
14	1.5	1.5
15	0	0
16	1.5	1.5
17	7.0	7.0
18	1.5	1.5
19	2.1	2.1
20	2.1	2.1
21	0.7	0.7
22	0.8	0.7
23	3.5	3.5
24	3.5	3.5
25	4.3	4.3
26	2.4	2.5
27	2.4	2.5
28	2.4	2.4
29	0	0
30	0	0
IC351		
1	0	0
2	-	-
3	2.2	2.2
4	1.3	1.3
5	0	0
6	1.3	1.4
7	1.1	1.1
8	0.4	0.5
9	3.8	3.9
10	0.6	0.6
11	0	0
12	0	0
13	0	0
14	4.9	4.9
15	2.4	2.4
16	2.4	2.5
17	2.4	2.4
18	4.2	4.2
19	0	0
20	2.4	2.4
21	2.4	2.4
22	2.4	2.4
23	2.4	2.4
24	2.4	2.4
25	2.4	2.4
26	-	-
27	-	-
28	-	0
29	-	-
30	-	-
31	-	-
32	0	0
IC401		
1	1.7	1.8
2	2.3	2.3
3	0	2.3
4	2.3	2.3
5	2.3	2.3
6	2.3	2.3
7	0	0
8	1.6	1.6
9	0	0
10	2.3	2.3
11	0.4	0
12	0	5.1
13	2.3	2.3
14	4.3	0
15	2.3	2.3
16	0	0
17	0	0
18	0	0
19	1.7	1.7
20	0	0
21	1.7	1.7
22	4.7	4.7
23	1.8	1.8
24	4.7	4.7
IC402		
1	2.3	2.3
2	2.3	2.3
3	2.3	2.3
4	0	0
5	1.7	1.7
6	1.7	1.7
7	1.8	1.7
8	4.7	4.7
IC501		
1	1.3	1.2
2	2.7	2.7
3	4.8	4.8
4	2.7	2.7
5	2.7	2.7
6	2.7	2.8
7	3.9	3.8
8	3.5	3.5
9	1.6	1.6
10	2.8	2.8
11	2.6	2.7
12	0	0
13	4.9	5.0
14	2.6	2.6
15	2.2	2.2
16	2.1	2.1
17	2.8	2.8
18	0	0
19	0	0
20	2.2	2.1
21	2.8	2.8
22	0	0
23	0	0
24	0	0
25	0.4	0
26	0	0
27	2.4	2.3
28	4.9	4.9
29	2.0	1.9
30	4.8	4.8
31	5.1	5.1
32	0	0
33	0	0
34	2.3	2.8
35	3.2	2.8
36	2.8	2.8
37	3.1	3.1
38	2.1	1.7
39	2.2	2.2
40	2.0	2.0
41	1.4	1.4
42	3.1	3.1
43	2.3	2.3
44	3.1	3.1
45	2.3	2.2
46	1.6	1.6
47	2.8	2.1
48	2.1	2.1
49	0	0.9
50	2.8	2.8
51	0	0.9
52	2.4	1.9
53	1.8	2.1
54	1.8	2.1
55	0	0
56	0	0
57	2.3	2.2
58	0.9	2.8
59	2.7	3.2
60	2.1	2.1
61	2.2	2.2
62	2.1	2.2
63	4.8	4.8
64	2.8	2.8
IC502		
1	4.2	2.2
2	0	0
3	4.3	2.2
4	2.2	2.2
5	2.2	2.2
6	0	0
7	2.0	2.0
8	4.2	4.2
9	2.9	2.9
10	0	2.9
11	2.8	2.8
12	2.8	2.8
13	3.8	3.8
14	3.7	3.7
15	4.9	4.9
16	3.6	3.6
IC503		
1	0	0
2	0	0
3	4.8	4.8
4	3.3	3.3
5	0	1.5
6	2.7	2.7
7	1.9	1.9
8	9.7	9.8
IC601	-	-
Q1		
E	5.1	5.1
C	0	0
B	5.1	5.0
Q2		
E	0	0
C	0	0.4
B	5.0	0
Q3		
E	4.9	4.9
C	4.9	0
B	0	0
Q5		
E	4.9	4.9
C	4.9	0
B	0	5.1
Q6		
E	0	0
C	6.6	6.6
B	0.5	0.5
Q7		
E	7.2	7.2
C	-	-
B	7.0	7.1
Q8		
E	0	0
C	6.5	7.2
B	0	0
Q9		
E	7.1	7.2
C	-	0
B	7.0	7.2
Q201		
E	0	0
C	1.2	0
B	0	5.2
Q202		
E	0	0
C	0	0.4
B	0.8	0
Q203		
E	5.0	5.0
C	4.9	0.4
B	0	5.2
Q351		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	1.8	-
14	2.2	2.2
Q401		
E	4.5	5.0
C	4.3	0
B	0	5.1
Q402		
E	4.9	4.9
C	4.6	5.1
B	0	5.1
Q403		
1	0	0
2	0	0
3	-19.6	0.7
4	-13.5	0
5	-19.1	0.7
Q404		
E	4.7	4.7
C	-18.3	4.6
B	4.7	0
Q405		
E	0	0
C	4.7	0
B	0	5.1
Q406		
E	0	0
C	0	0
B	3.6	3.6
Q407		
E	0	0
C	3.6	3.6
B	0	0
Q408		
E	0	0
C	4.1	0
B	0	0
Q502		
E	2.6	2.7
C	4.7	4.8
B	3.3	3.3
Q503		
E	2.2	0
C	0	0
B	1.6	1.6

MODE /PIN	REC	PLAY
Q561		
E	0	0
C	2.8	2.8
B	0	0
Q562		
E	0	0
C	2.8	2.8
B	0	0
Q563		
E	0	0
C	0	2.9
B	5.1	0
Q564		
E	3.5	1.8
C	4.9	4.9
B	4.2	2.2
Q601	-	-
Q602	-	-
Q603	-	-
Q604	-	-
Q605		
E	3.4	2.4
C	0	0
B	3.6	1.8
Q701		
E	4.9	4.9
C	4.8	0
B	0	5.1
Q702		
E	0	0
C	4.6	0
B	0.7	0
Q703		
E	0	0
C	4.6	0
B	0.7	0
Q704		
E	0	0
C	0	0
B	0.8	0

<REAR>

MODE /PIN	REC	PLAY
IC1		
1	4.7	4.9
2	7.2	7.3
3	6.6	6.8
4	0	0
5	1.5	1.5
6	1.2	1.2
7	1.2	1.3
8	5.0	5.0
9	0	0
10	1.7	1.8
11	0	0
12	0	0
13	7.0	7.2
14	0	0
15	1.8	1.8
16	1.2	1.3
17	1.6	1.6
18	7.0	7.2
19	2.5	2.5
20	7.0	7.2
21	7.0	7.2
22	3.5	0
23	0	0
24	1.3	0
25	1.3	1.3
26	1.3	0
27	1.6	2.4
28	1.8	0
29	3.2	0
30	1.2	1.2
31	1.2	0
32	1.6	2.4
33	2.4	2.5
34	5.5	7.2
35	7.0	6.7
36	5.4	7.2
37	6.9	6.6
38	2.4	0
39	6.7	7.2
40	6.8	7.2
41	2.3	0
42	0	0
43	2.2	2.2
44	6.8	6.9
45	7.2	7.2
46	6.2	6.3
47	2.4	2.4
48	6.3	6.4
Q1		
E	7.1	7.2
C	7.0	7.1
B	0	0
Q3		
E	7.1	7.2
C	5.0	5.0
B	6.5	6.7
Q4		
E	5.0	5.0
C	5.0	0
B	4.3	5.0
Q6		
1	7.1	7.3
2	6.8	6.9
3	0	0
4	2.3	2.2
Q7		
E	7.0	7.2
C	0	0
B	6.7	7.2
Q8		
1	7.0	7.2
2	6.7	7.2
3	0	0
4	3.2	0
Q9		
E	0	0
C	0	5.0
B	0	0
Q10		
E	5.0	0
C	5.0	4.5
B	3.5	0
Q11		
E	15.0	0
C	15.7	0
B	15.7	0
Q201		
E	7.1	7.2
C	0	0
B	7.1	7.2
Q202		
E	0	0
C	7.1	7.2
B	0	0
Q203		
E	7.1	7.2
C	7.1	7.2
B	6.4	6.5
Q204		
E	0	0
C	0	0
B	4.5	4.5
Q205		
E	0	0
C	0	0
B	0	0

<CCD>

MODE /PIN	EE
IC101	
1	7.5
2	7.5
3	0
4	0
5	0
6	5.1
7	0
8	3.1
9	0
10	3.1
11	0
12	0
13	0
14	0
15	0
16	15.0
17	-7.0
18	-7.0
19	0
20	15.0
IC201	
1	3.1
2	0
3	0
4	3.1
5	1.5
6	0
7	0
8	0
9	0.8
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0.4
18	0
19	1.6
20	0
21	0
22	0
23	0
24	0
25	3.1
26	0
27	0
28	0
29	3.0
30	3.0
31	3.1
32	3.1
33	3.1
34	3.1
35	4.9
36	2.2
37	2.6
38	0.6
39	0
40	0
41	1.4
42	1.5
43	0.9
44	0.8
45	0.9
46	0.9
47	3.1
48	0
49	0
50	3.1
51	3.1
52	3.1
53	0
54	1.4
55	0
56	3.1
57	0
58	3.1
59	3.1
60	3.1
61	2.7
62	0
63	2.1
64	0
IC301	-
IC302	-
Q101	
E	1.0
C	0
B	1.6
Q102	
E	11.0
C	15.0
B	11.8
Q103	
1	6.8
2	7.4
3	7.4
4	2.2
5	2.7
6	15.0

<PROCESS>

MODE /PIN	EE
IC401	
1	0
2	0
3	0
4	3.1
5	3.4
6	0
7	3.1
8	2.4
9	3.1
10	1.9
11	0
12	0
13	0
14	0
15	0
16	1.4
17	0
18	0
19	3.1
20	3.1
21	3.1
22	1.2
23	0
24	0
25	0
26	0
27	1.1
28	0.9
29	0.9
30	0
31	3.1
32	0.9
33	1.8
34	0.9
35	0
36	0
37	0
38	0
39	0.9
40	0
41	0
42	0
43	3.1
44	1.5
45	0
46	0
47	0
48	0
IC501	
1	0
2	1.2
3	1.0
4	1.9
5	1.2
6	1.2
7	1.2
8	1.4
9	1.5
10	3.1
11	0
12	0.4
13	1.6
14	0
15	0
16	0.4
17	0
18	0
19	3.1
20	3.1
21	0
22	3.0
23	3.0
24	3.0
25	3.0
26	3.0
27	3.0
28	3.0
29	3.0
30	3.1
31	0
32	0
33	0.4
34	0
35	1.1
36	1.2
37	0
38	0
39	1.6
40	0
41	0.9
42	1.0
43	1.0
44	1.0
45	1.2
46	1.1
47	1.2
48	1.2
49	1.2
50	3.1
51	0
52	1.6
53	1.4
54	1.6
55	1.4
56	2.0
57	1.8
58	1.2
59	0.9
60	1.3
61	3.1
62	1.7
63	0.6
64	0
65	0
66	2.8
67	2.9
68	0
69	0
70	3.0
71	0
72	1.5
73	0
74	0
75	0
76	3.0
77	0
78	0.9
79	0.9
80	0
IC502	
1	0
2	0
3	0
4	3.1
5	2.6
6	0
7	0
8	0
9	3.1
10	0
11	0
12	3.1
13	3.1
14	3.1
15	0
16	0
17	0
18	0
19	0
20	3.1
21	0
22	0
23	0
24	0
25	0.8
26	3.1
27	2.8
28	0
29	0
30	3.1
31	0
32	0
33	0
34	0
35	0
36	0
37	1.5
38	3.1
39	0
40	0
41	0
42	3.1
43	0
44	0
45	3.1
46	0
47	0
48	0.4
IC503	
1	3.1
2	3.1
3	0
4	0
5	1.5
6	3.1
7	0
8	1.5
9	1.5
10	1.5
11	1.4
12	1.4
13	1.6
14	1.0
15	1.0
16	0
17	0
18	3.1
19	3.1
20	3.1
21	0
22	3.1
23	3.1
24	3.1
25	3.1
26	3.1
27	3.1
28	3.1
29	3.1
30	3.1
31	3.1
32	3.1
33	3.1
34	3.1
35	3.1
36	3.1
37	3.1
38	3.1
39	0
40	0
41	3.1
42	0
43	0
44	0
45	0
46	0
47	0
48	0
49	0
50	0
51	0
52	0
53	3.1
54	0
55	3.0
56	3.0
57	3.0
58	3.1
59	3.1
60	3.1
61	3.1
62	3.0
63	3.1
64	0.6
IC504	
1	3.1
2	1.3
3	0
4	1.5
5	3.1
IC601	
1	2.8
2	0
3	0
4	0
5	0
6	0
7	2.8
8	0
9	0
10	0.8
11	0
12	1.5
13	0
14	0
15	0
16	0
17	0
18	0
19	1.6
20	1.6
21	0
22	-
23	-
24	-
25	0
26	2.2
27	2.3
28	0
29	0
30	3.0
31	3.1
32	3.1
33	0
34	3.1
35	3.1
36	3.1
37	0.9
38	0.8
39	0.8
40	0.9
41	0.9
42	0.8
43	0.8
44	0.7
45	0
46	3.1
47	1.0
48	1.0
49	1.1
50	1.3
51	2.0
52	1.0
53	0.9
54	1.3
55	0
56	3.1
57	-
58	1.3
59	1.3
60	1.4
61	1.4
62	1.4
63	1.3
64	1.4
65	0
66	0
67	1.4
68	1.8
69	1.8
70	1.2
71	0
72	1.4
73	0
74	1.2
75	0
76	0
77	3.1
78	3.1
79	0
80	0
81	3.0
82	1.2
83	3.1
84	0
85	0
86	0
87	0
88	0
89	0
90	0.8
91	0.9
92	1.0
93	1.0
94	0
95	0
96	1.0
97	1.4
98	1.0
99	1.1
100	1.8
101	1.6
102	0
103	0
104	1.2
105	3.1
106	0
107	1.4
108	1.0
109	1.2
110	1.8
111	1.7
112	1.5
113	1.5
114	1.5
115	3.1
116	0
117	1.2
118	1.2
119	1.3
120	1.2
121	1.3
122	1.1
123	1.1
124	1.2
125	0
126	0
127	0
128	0.8
IC602	
1	3.1
2	3.1
3	3.0
4	3.1
5	1.5
6	0
7	0
8	3.0
9	3.0
10	0
11	0
12	0

MODE /PIN	EE
13	1.2
14	0
15	1.2
16	1.7
17	1.8
18	1.1
19	1.0
20	1.4
21	0
22	0
23	0
24	1.0
25	0
26	0.9
27	1.0
28	1.0
29	0.9
30	0.8
31	0.7
32	0
33	0
34	0
35	0
36	0
37	0
38	1.4
39	1.3
40	1.5
41	1.5
42	3.2
43	0
44	1.5
45	1.3
46	1.3
47	0
48	0
49	0
50	0
51	0
52	0
53	0
54	3.2
55	0
56	1.8
57	1.5
58	1.5
59	1.5
60	0
61	0
62	0
63	3.1
64	3.0
65	0
66	0
67	0
68	0
69	3.1
70	3.1
IC701	
1	0
2	0
3	0
4	3.5
5	3.5
IC702	
1	0
2	3.5
3	0
4	3.5
5	3.5
6	0.6
7	0
8	0
IC703	
1	3.4
2	0
3	0
4	3.5
5	3.5
6	0
7	0.5
8	0
9	3.5

MODE /PIN	EE
10	3.5
11	2.9
12	0
13	0
14	3.4
15	2.9
16	0
17	3.5
18	0
19	3.5
20	1.8
21	0.8
22	0
23	0
24	3.5
25	0
26	3.0
27	3.0
28	3.1
29	3.1
30	3.1
31	3.1
32	3.1
33	3.1
34	3.1
35	3.1
36	3.1
37	3.1
38	3.1
39	3.1
40	3.1
41	3.1
42	0
43	3.1
44	3.1
45	3.1
46	0
47	3.1
48	3.1
49	2.6
50	0
51	3.5
52	0
53	0.4
54	0
55	1.1
56	1.0
57	0
58	0
59	0
60	1.8
61	1.7
62	3.5
63	0
64	3.5
65	3.5
66	3.5
67	3.5
68	0
69	0
70	3.0
71	2.0
72	0
73	0
74	1.8
75	1.8
76	0
77	0
78	3.5
79	0
80	0
81	0
82	0
83	0
84	0.5
85	0.5
86	0.5
87	3.5
88	3.5
89	3.5
90	3.5
91	0
92	0

MODE /PIN	EE
93	1.6
94	0.5
95	3.5
96	0.5
97	1.7
98	0.5
99	0.5
100	0.5
IC704	
1	0
2	2.8
3	1.9
4	0
5	1.8
6	1.8
7	0
8	0.7
9	0.7
10	3.2
11	3.2
12	1.1
13	2.5
14	0
15	0
16	3.5
17	0
18	1.8
19	1.2
20	0
IC705	
1	3.5
2	3.5
3	0
4	0
5	3.5
6	0
7	3.5
8	3.5
IC706	
1	2.5
2	2.5
3	2.5
4	0
5	2.5
6	2.5
7	1.8
8	5.0
IC707	
1	0
2	3.5
3	0
4	0
5	3.5
IC708	
1	6.5
2	0
3	1.3
4	3.5
5	0
6	7.1
IC801	
1	2.0
2	1.0
3	0
4	0
5	2.8
6	3.1
7	0
8	3.1
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	0

<PROCESS>

MODE /PIN	EE
23	0
24	0
25	0
26	0
27	0
28	0
29	0
30	0
31	0.4
32	0.8
33	0.8
34	0
35	0.9
36	0
37	0
38	0.8
39	0
40	0
41	1.6
42	3.1
43	0
44	0
45	1.0
46	1.0
47	1.1
48	1.2
IC802	
1	0
2	0
3	0
4	2.3
5	2.3
6	5.0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
IC803	
1	1.9
2	0
3	0
4	1.9
5	1.8
6	1.9
7	3.0
8	2.9
9	1.0
10	0
11	2.5
12	3.0
13	0
14	5.0
15	0
16	0.7
17	3.2
18	0
19	1.2
20	1.8
21	1.9
22	0
23	1.8
24	1.8
IC901	
1	1.2
2	0
3	1.8
4	0
5	2.0
6	2.0
7	1.9
8	7.1
IC902	
1	3.3
2	2.5
3	2.5
4	5.0
5	0.5
6	0.5
7	1.2

MODE /PIN	EE
8	1.9
9	2.5
10	2.5
11	0
12	2.5
13	2.5
14	2.5
IC903	
1	0
2	3.6
3	3.5
4	3.5
5	1.5
6	0.5
7	0.7
8	0
9	0
10	2.6
11	0
12	7.1
13	0.4
14	0
15	0.4
16	0
17	0.4
18	0
19	0.4
20	7.1
21	1.0
22	12.1
23	12.0
24	3.7
25	1.8
26	1.8
27	0
28	3.5
29	0
30	3.5
IC904	
1	0
2	3.6
3	0
4	3.6
5	1.5
6	0.5
7	0.5
8	0.5
9	0.5
10	3.7
11	0
12	7.2
13	0.5
14	0
15	0.5
16	0
17	0.5
18	0
19	0.5
20	7.2
21	1.1
22	5.7
23	5.3
24	3.0
25	1.6
26	1.6
27	2.9
28	3.5
29	0
30	3.5
IC905	
1	1.7
2	1.7
3	0
4	2.0
5	3.5
IC906	
1	3.1
2	0
3	1.3
4	5.1
5	0
6	7.1

MODE /PIN	EE
Q401	
E	1.3
C	4.9
B	2.0
Q801	
E	0
C	4.9
B	0
Q802	
E	0
C	0
B	2.8
Q803	
E	1.7
C	5.0
B	2.4
Q804	
1	0
2	2.5
3	4.9
4	2.0
5	2.5
6	0
Q805	
E	0
C	5.0
B	3.1
Q806	-
Q901	
E	0.6
C	1.6
B	1.2
Q902	
1	0
2	0
3	0
4	0
5	0
Q903	
1	0
2	0
3	0
4	0
5	0
Q904	
1	3.6
2	4.3
3	0
4	4.3
5	3.6
6	5.0
Q905	
E	0
C	0
B	4.8
Q906	
E	7.0
C	7.0
B	6.3

<E.VF for GR-AX800U/U(C)>

MODE /PIN	EE
IC1	
1	0
2	4.9
3	2.4
4	0
5	1.9
6	0
7	0
8	4.5
9	4.4
10	0
11	1.9
12	4.5
13	2.8
14	1.8
15	1.8
16	3.1
Q1	
E	2.2

MODE /PIN	EE
C	-15.2
B	1.7
Q2	
E	0
C	4.5
B	0
Q3	
E	0
C	0
B	0.3

<E.VF for GR-AX900U/U(C)>

MODE /PIN	EE
IC101	
1	0
2	0
3	0
4	0
5	4.3
6	4.4
7	4.8
8	4.9
IC102	
1	0.5
2	0
3	0.4
4	0.5
5	4.8
IC103	
1	0.7
2	2.3
3	0.5
4	1.4
5	0.4
6	2.4
7	0
8	0
9	4.9
10	4.9
11	0
12	2.4
13	0
14	0.6
15	0
16	2.4
IC201	
1	2.3
2	4.2
3	2.4
4	0.6
5	2.7
6	2.7
7	4.3
8	0.7
9	2.1
10	2.1
11	1.1
12	4.0
13	4.7
14	4.7
15	1.8
16	4.6
17	0
18	0
19	2.4
20	6.0
21	2.4
22	6.1
23	2.5
24	6.1
25	12.0
26	2.6
27	2.3
28	2.3
29	2.4
30	1.9
31	2.3
32	2.2
33	1.2
34	2.3
35	2.3

MODE /PIN	EE
36	0.5
37	0.5
38	2.4
39	0
40	0
41	0
42	2.5
43	4.7
44	1.3
45	2.5
46	2.9
47	1.9
48	2.4
IC202	
1	4.8
2	0
3	4.8
4	0
5	4.8
6	4.8
7	0
8	0
9	0
10	4.8
11	4.8
12	4.8
13	3.7
14	0
15	0
16	0
17	3.8
18	0
19	1.9
20	1.9
21	0
22	2.3
23	1.1
24	0
25	0
26	0
27	0.5
28	2.4
29	2.4
30	0
31	1.4
32	1.4
33	1.4
34	2.4
35	4.7
36	0.4
37	0
38	4.9
39	2.5
40	2.5
41	0
42	0
43	4.9
44	4.9
45	4.9
46	0
47	0
48	4.9
Q101	
E	0
C	4.7
B	0
Q102	
E	0
C	6.7
B	0
Q103	
1	1.6
2	2.3
3	1.6
4	2.2
5	1.7
6	1.7
Q104	
1	4.9
2	2.4
3	2.9
4	2.4
5	1.7

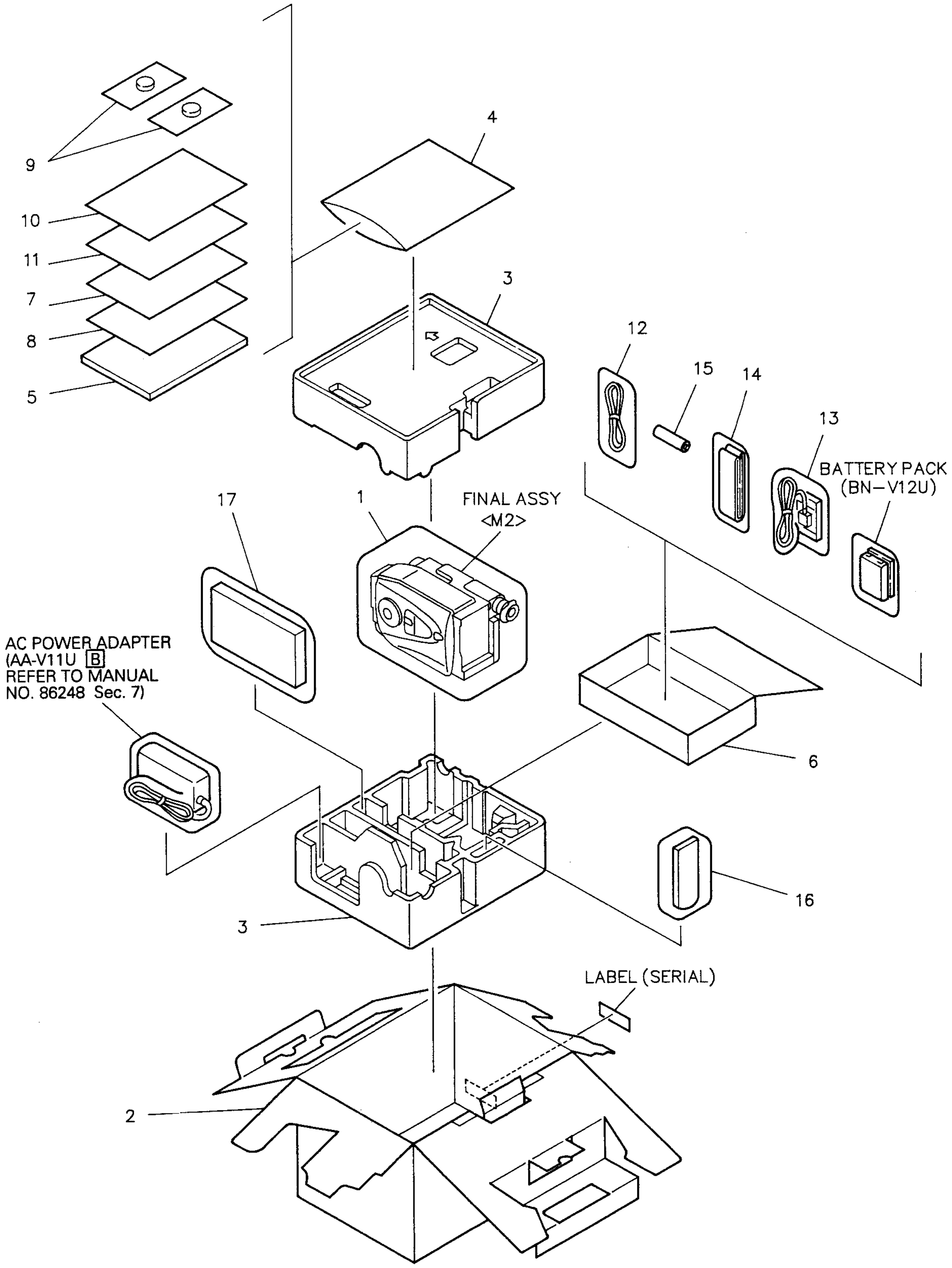
MODE /PIN	EE
6	1.7
Q201	
1	3.8
2	4.4
3	3.8
4	4.6
5	4.4

SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING ASSEMBLY <M1>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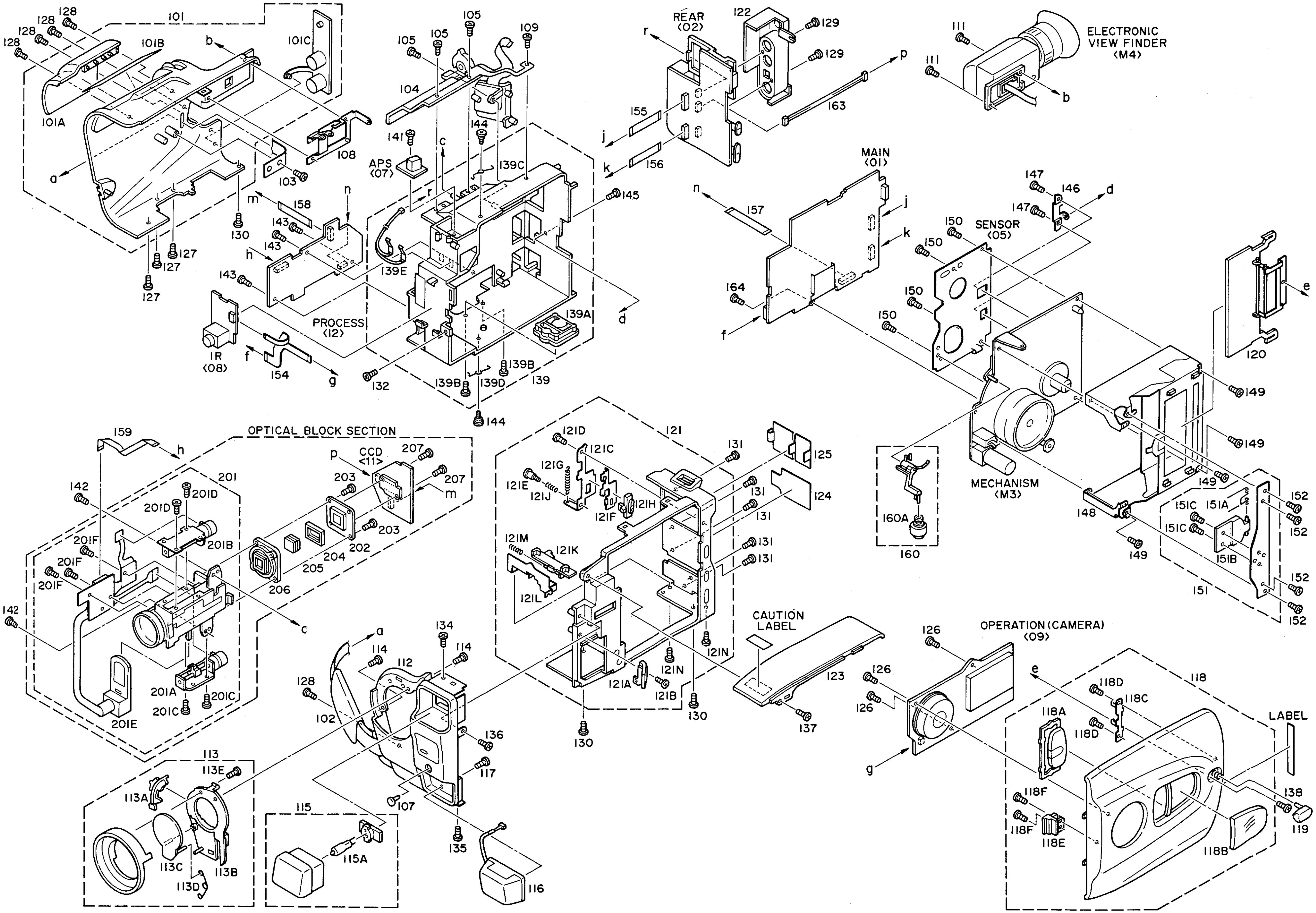
10
11
7
8
5
4
3
12
15
14
13
BATTERY PACK
(BN−V12U)
17
1
FINAL ASSY
<M2>
AC POWER ADAPTER
(AA-V11U B
REFER TO MANUAL
NO. 86248 Sec. 7)
6
16
3
LABEL (SERIAL)
2

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
			PACKING ASSEMBLY <M1>
	1	YQM30021-32	POLY BAG
	2	YQ31868-5	PACKING CASE,AX800U
		YQ31868-6	PACKING CASE,AX900U
		YQ31868-7	PACKING CASE,AX900U(C)
	3	YQ31869A-2	CUSHION ASSY
	4	YQM30061	POLY BAG
⚠	5	YU30052-446	INSTRUCTIONS,AX800U
⚠		YU30052-447	INSTRUCTIONS,AX900U
⚠		YU30052-448	INSTRUCTIONS,AX900U(C)
	6	YQ20865	ACCESSORY CASE
⚠	7	YU20333	SAFETY CAUTION
	8	BT-20071B	SER.NET CARD,AX900U(C)
⚠	9	PECA0903	LI BATTERY,X2
	10	BT-20025M	WARRANTY CARD,AX900U(C)
	11	BT-51006-1	REGIST.CARD,AX800U/AX900U
	12	PEAC0369-150	REMOTE CABLE,EDITING CABLE
	13	PEAC0134-01-04	DC PLUG CORD
	14	YQ10188A-1	S STRAP ASSY
	15	R6PRPA-2ST	BATTERY
⚠	16	YQ20775C	REMOTE CONTROLLER,AX900U/U(C)
⚠		YQ20767A	REMOTE CONTROLLER,AX800U
	17	YQ31963A-3	CASSETTE ADAPTER ASSY

5.2 FINAL ASSEMBLY <M2>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101A
101B
101C
128
103
108
130
127
a
b
104
105
109
141
144
APS
<07>
c
r
139C
139E
139A
139B
139D
139
145
d
e
m
n
158
143
h
PROCESS
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IR
<08>
f
g
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REAR
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p
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156
163
j
k
ELECTRONIC
VIEW FINDER
<M4>
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MAIN
<01>
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164
147
146
SENSOR
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150
120
149
MECHANISM
<M3>
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160
160A
151
151A
151B
151C
152
OPTICAL BLOCK SECTION
159
142
201
201A
201B
201C
201D
201E
201F
CCD
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203
202
204
205
206
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121A
121B
121C
121D
121E
121F
121G
121H
121J
121K
121L
121M
121N
131
125
124
CAUTION
LABEL
123
137
OPERATION (CAMERA)
<09>
126
118
118A
118B
118C
118D
118E
118F
LABEL
138
119
134
114
112
102
136
117
107
135
116
113
113A
113B
113C
113D
113E
115
115A

****

FINAL ASSEMBLY <M2>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	101	YQ10522C-4	LOWER CASE ASSY
	101A	YQ31804-3	D.COVER
	101B	YQ31806-2-2	SHEET
	101C	YQ31850	CAP(JACK)
	102	YQ20824-2	GRIP BELT
	103	YQM30032-42	SPECIAL SCREW,M2.6X6
	104	YQ10518-3-3	OPERATION UNIT
	105	YQM30032-60	SPECIAL SCREW,X3 M2X5
	107	YQ43518	CAP(JACK)
	108	YQ31981	BRACKET(VF)
	109	YQM30032-59	SPECIAL SCREW,M2X2
	111	YQM30032-5-2	SPECIAL SCREW,X2 M2X6
⚠	112	YQ10524L-3	FRONT COVER ASSY
	113	YQ31847B	HOOD ASSY
	113A	YQ31811-2	KNOB(RING)
	113B	YQ31812	GUIDE
	113C	YQ43798	SHUTTER
	113D	YQ43799	TORSION SPRING
	113E	YQM30032-60	SPECIAL SCREW,M2X5
	114	YQM30032-61	SPECIAL SCREW,X2 M2X6
⚠	115	YQ20802	DC LIGHT
	115A	YQ20645-001	VIDEO LIGHT BULB
	116	YQ20811	MICROPHONE
	117	YQM30032-61	SPECIAL SCREW,M2X6
⚠	118	YQ10526C-3	CASSETTE COVER ASSY,AX800U
⚠		YQ10526D-3	CASSETTE COVER ASSY,AX900U/U(C)
	118A	YQ31813-2	BUTTON(SELECT)
	118B	YQ31816-2	WINDOW(LCD)
	118C	YQ43800-1-1	BRACKET(C.LOCK)
	118D	YQM30032-4-2	SPECIAL SCREW,X2 M2X6
	118E	YQ43802-1-2	HINGE(C.COVER)
	118F	YQM30032-4-2	SPECIAL SCREW,X2 M2X6
	119	YQ31815-2	BUTTON(PUSH)
	120	YQ31822A	CASS. COVER INSIDE ASSY
⚠	121	YQ10528C-1	UPPER CASE ASSY
	121A	YQ31818	HINGE(UPPER)
	121B	YQM30032-4-2	SPECIAL SCREW,M2X6
	121C	YQ43803	BRACKET(LOCK)
	121D	YQM30032-44	SPECIAL SCREW,M2X4
	121E	YQM30060-6	SPECIAL SCREW
	121F	YQ43804	BRACKET(SLIDE)
	121G	YQM30001-66	TENSION SPRING
	121H	YQ31842-2	BUTTON(EJECT)
	121J	YQM30002-45	COMPRESSION SPRING
	121K	YQ31819-2	KNOB(B.RELEASE)
	121L	YQ31820	BRACKET(B.RE)
	121M	YQM30002-44	COMPRESSION SPRING
	121N	YQM30032-1-2	SPECIAL SCREW,X2 M2X3
⚠	122	YQ20814-3-2	COVER(JACK)
⚠	123	YQ31864C	TOP COVER ASSY
⚠	124	YQ31848	SHEET(BATT.)
	125	YQ31821	CAP(LITHIUM)
	126	YQM30032-60	SPECIAL SCREW,X3 M2X6 AX900U/U(C)
		YQM30032-61	SPECIAL SCREW,X3 M2X6,AX800U
	127	YQM30032-61	SPECIAL SCREW,X3 M2X6
	128	YQM30032-61	SPECIAL SCREW,X5 M2X6
	129	YQM30032-61	SPECIAL SCREW,X2 M2X6
	130	YQM30032-61	SPECIAL SCREW,X3 M2X6
	131	YQM30032-61	SPECIAL SCREW,X5 M2X6
	132	YQM30032-61	SPECIAL SCREW,M2X6
	134	YQM30032-61	SPECIAL SCREW,M2X6
	135	YQM30032-61	SPECIAL SCREW,M2X6
	136	YQM30032-61	SPECIAL SCREW,M2X6
	137	YQM30032-61	SPECIAL SCREW,M2X6
	138	YQM30032-3-2	SPECIAL SCREW,M2X5
⚠	139	YQ10530A-1	FRAME ASSY
	139A	YQ31843	BASE
	139B	YQM30032-4-2	SPECIAL SCREW,X2 M2X6
	139C	YQ43543	SPRING(TOR.1)
	139D	YQ43555	SPRING(TOR.2)
	139E	YQ43810	CONTACT(LIGHT),X2
	141	YQM30032-60	SPECIAL SCREW,M2X5
	142	YQM30032-60	SPECIAL SCREW,X2 M2X5
	143	YQM30032-60	SPECIAL SCREW,X3 M2X5
	144	YQ43545	SPECIAL SCREW,X2
	145	YQM30032-5-2	SPECIAL SCREW,M2X6
	146	YQ43544	BRACKET(MECHA)
	147	SPSH1725Z	SCREW,X2
	148	YQ31752A-2	CASSETTE HOUSING ASSY
	149	SPSH1725M	SCREW,X4
	150	SPSH1730M	SCREW,X4
	151	YQ31762A-2	FRONT FRAME ASSY
	151A	YQ43597	TAPE GUIDE
	151B	YQ31794-1-3	TAPE GUIDE HOLDER
	151C	SPSH1720M	SCREW,X2
	152	SPSH1725Z	SCREW,X4
	154	PEWR0767	FPC
	155	PEWR0786	FFC
	156	PEWR0786	FFC
	157	PEWR0786	FFC
	158	PEWR0771	FFC
	159	PEWR0774	FFC
	160	YQ44027A-3	CLEANER ASSY
	160A	YQ44109A-2	CLEANER ROLLER ASSY
	163	ML-Y00721A	CCD WIRE
	164	SPSH1720M	SCREW

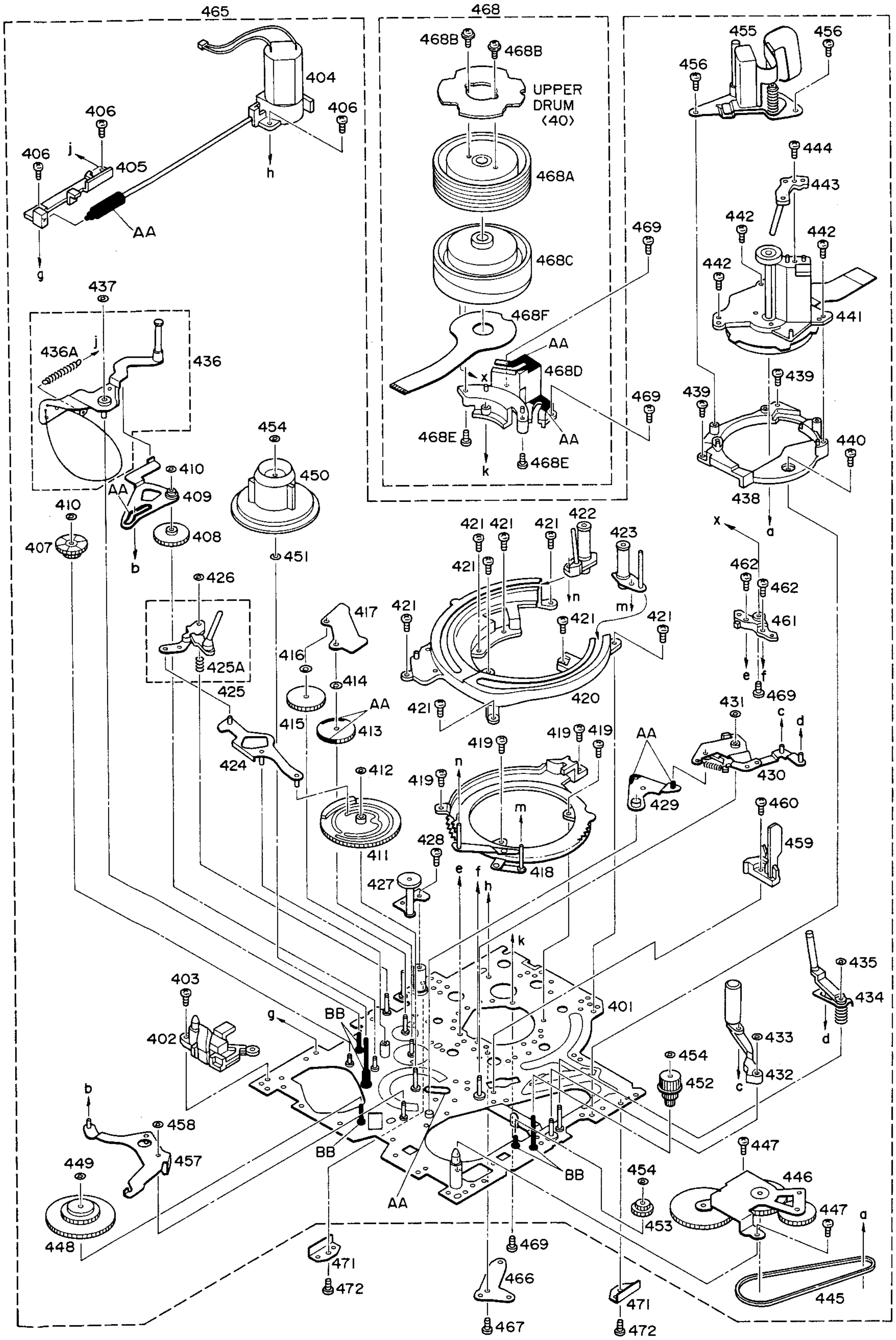
– OPTICAL BLOCK SECTION –

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	201	YU30787-1-1	OP BLOCK ASSY
	201A	YU30787-002	FOCUS MOTOR UNIT
	201B	YU30787-001	ZOOM MOTOR UNIT
	201C	YU30787-010	SCREW,X2
	201D	YU30787-010	SCREW,X2
	201E	YU30787-006	IRIS FPC ASSY
	201F	YU30787-010	SCREW,X3
⚠	202	YS40113D	CCD BASE ASSY
	203	SPSN2090Z	SCREW,X2
	204	YQ31844	SPACER RUBBER
	205	YU42053	OP LOW PASS FILTER
	206	YQ20823	CCD SPACER
	207	SPSP2006Z	SCREW,X2

5.3 MECHANISM ASSEMBLY <M3>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



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Classifi-cation	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	YTU94027	BB

NOTE: The section marked in AA and BB indicate lubrication and greasing areas.

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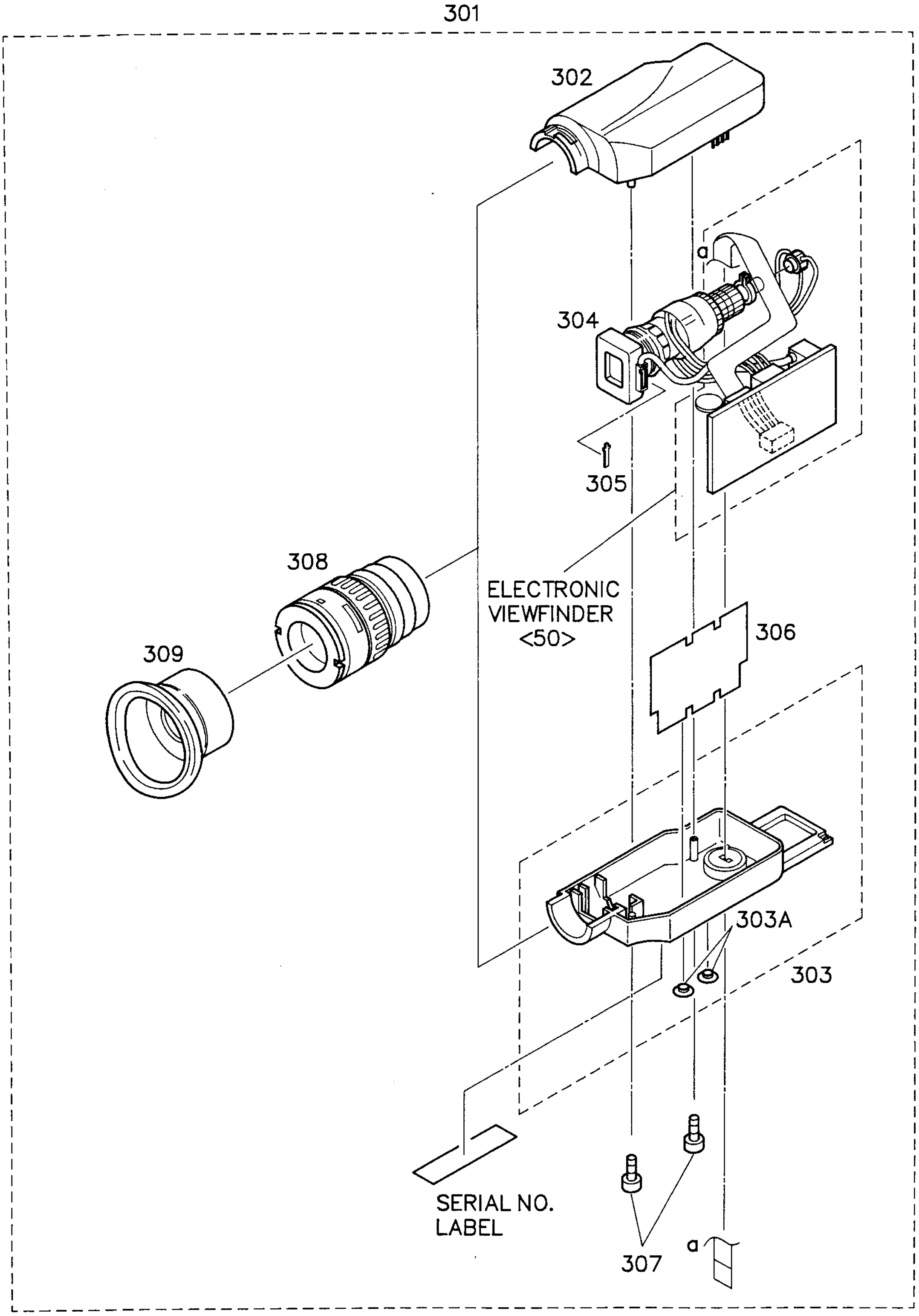
MECHANISM ASSEMBLY <M3>

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION
401	YQ20790A-5	MAIN DECK ASSY
402	YQ43618A-2	CASS.GUIDE(L) ASSY
403	SPSH1740Z	SCREW
⚠ 404	YQ31856A	MOTOR BRACKET ASSY
405	YQ20793	WORM BRACKET
406	SPSH1740Z	SCREW,X3
407	YQ31783	WHEEL GEAR
408	YQ43627	MIDDLE GEAR
409	YQ43849A-1	CANCEL LEVER ASSY
410	PQM30017-27	SLIT WASHER,X2
411	YQ20827	CONTROL CAM
412	PQM30017-25	SLIT WASHER
413	YQ43853A	LOADING GEAR(T) ASSY
414	PQM30017-27	SLIT WASHER
415	YQ43852A	LOADING GEAR(S)ASSY
416	PQM30017-27	SLIT WASHER
417	YQ43634	COVER PLATE
418	YQ43635B	LOADING RING ASSY
419	SPSH1740Z	SCREW,X4
420	YQ10516-1-5	GUIDE RAIL
421	SPSH1730M	SCREW,X8
422	YQ43646A-4	SUPPLY POLE BASE ASSY
423	YQ43654A-6	TAKE-UP POLE BASE ASSY
424	YQ43659A-1	DRIVE LEVER ASSY
425	YQ43663B-4	SLANT ARM ASSY
425A	YQ43670	TOR.SPRING(S)
426	PQM30017-27	SLIT WASHER
427	YQ44126A	ROLLER BASE ASSY
428	SPSH1730M	SCREW
429	YQ43678A	LINK LEVER ASSY
430	YQ43682A-4	LINK ARM ASSY
431	PQM30017-25	SLIT WASHER
432	YQ43691A-2	PINCH ROLLER ARM ASSY
433	PQM30017-25	SLIT WASHER
434	YQ43698A-2	TAKE-UP GUIDE ARM ASSY
435	PQM30017-27	SLIT WASHER
436	YQ43844A-8	TENSION ARM ASSY
436A	YQ43848	TENSION SPRING
437	PQM30017-27	SLIT WASHER
438	YQ20797-1-1	MOTOR BASE
439	SPSH1740Z	SCREW,X2
440	SSSH1730M	SCREW
⚠ 441	YU42048-1-2	CAPSTAN MOTOR
442	SPSN1755M	SCREW,X3
443	YQ43708A-2	SLANT POLE BASE ASSY
444	SPSN1755M	SCREW
445	YQ43710	TIMING BELT
446	YQ43711B	CENTER PULLEY UNIT
447	SPSH1730M	SCREW,X2
448	YQ43729A	SUPPLY CLUCH ASSY
449	PQM30017-27	SLIT WASHER
450	YQ31861-1-5	REEL DISK
451	Q03093-835	WASHER
452	YQ31787	TAKE-UP GEAR
453	YQ43737	BRAKE SUB GEAR
454	PQM30017-27	SLIT WASHER,X3
455	YQ43738A-4	A/C HEAD UNIT
456	SPSN1750Z	SCREW,X2
457	YQ43743A-1	EJECT LEVER ASSY
458	PQM30017-27	SLIT WASHER
459	YQ31833-1-1	LED GUIDE
460	SPSH1730M	SCREW
461	YQ43818	DRUM SPACER
462	SPSH1740Z	SCREW,X2
465	YMA0016A	MECHA(A) ASSY
466	YU42051	BRUSH
467	SPSH1720M	SCREW
468	YDV2065A	DRUM ASSY
468A	YDM2067D	UPPER DRUM ASSY
468B	YDM4031	SCREW,X2
468C	YDM2083A	LOWER DRUM ASSY
468D	YDM1003-1-4	CHATCHER
468E	SPSH1730M	SCREW,X2
468F	YDM2080	OUT PUT FPC
469	SPSH1740Z	SCREW,X4
471	YQ43779	SIDE BRAKET,X2
472	SPSH1720M	SCREW,X2

5.4 ELECTRONIC VIEWFINDER ASSEMBLY <M4> [GR-AX800U]


301
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ELECTRONIC VIEWFINDER <50>
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303A
303
SERIAL NO. LABEL
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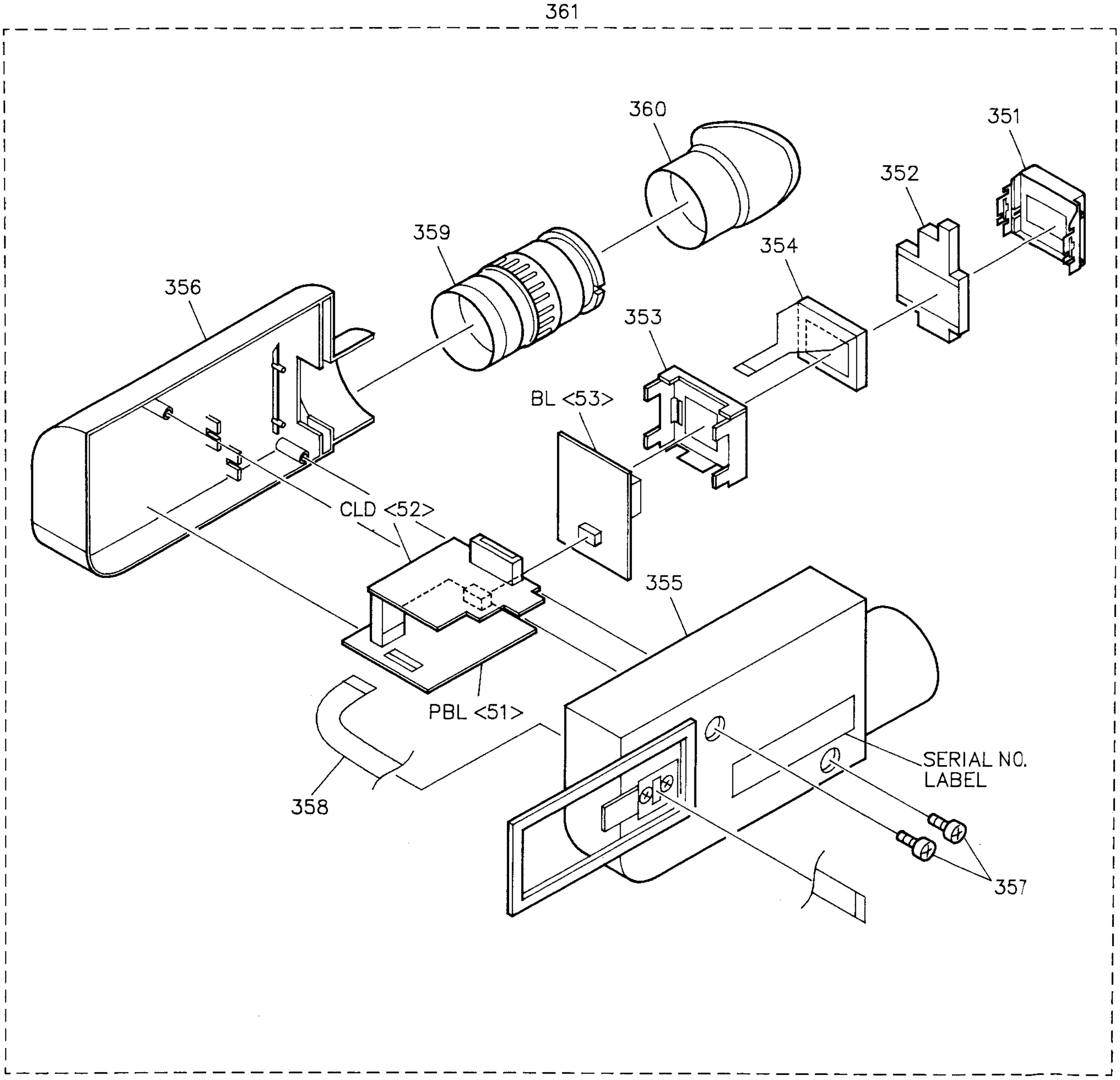
ELECTRONIC VIEWFINDER ASSEMBLY(GR-AX800U) <M4>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
⚠	301	YQ31803A	E.VF ASSY
⚠	302	YQ10534	TOP CASE
⚠	303	YQ31841A	BOTTOM CASE ASSY
	303A	YQ44018	CAP,X2
⚠	304	YQ31803-001	CRT/DY ASSY
⚠	305	YU30181-014	HV COVER
	306	YQ31803-100	INSULATOR
	307	YU30045-014	SCREW,X2 M1.7X5
	308	YQ31803-200	LENS ASSY
	309	YQ31803-201	EYE CAP

5.5 ELECTRONIC VIEWFINDER ASSEMBLY <M4> [GR-AX900U/U(C)]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BL <53>
CLD <52>
355
PBL <51>
SERIAL NO.
LABEL
358
357

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ELECTRONIC VIEWFINDER ASSEMBLY (GR-AX900U/U(C)) <M4>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	351	YQ31801	HOLDER(LCD)
	352	YQ43792	WINDOW(LCD)
	353	YQ31802	HOLDER(LAMP)
	354	PEDP0177	LCD PANEL
⚠	355	YQ31958B	BOTTOM CASE ASSY
⚠	356	YQ31932B	TOP CASE ASSY
	357	SPSN2080M	SCREW,X2
	358	PEWR0775	FPC
	359	YQ31803-200	LENS ASSY
	360	YQ31803-201	EYE CAP
	361	YS20782B	E.VF ASSY

5.6 ELECTRICAL PARTS LIST

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MAIN BOARD ASSEMBLY <01>

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	YB10134A-03	MAIN BOARD ASSY,AX900U/U(C)	
	YB10134B-03	MAIN BOARD ASSY,AX800U	
IC1	M37771M6A157HP	IC	
IC2	UPD6462GS-902-X	IC	
IC3	TC74HCT04AF	IC	
IC4	XRU4584BF	IC	
IC5	MM1290XF	IC	
IC6	BA6417F	IC	
IC7	TC7S08F	IC	
IC301	VC5035-XE	IC	
IC351	BA6862FS	IC	
IC401	BA7751AFS	IC	
IC402	XRA15218F	IC	
	or BA15218F	IC	
IC501	HA118186F	IC	
IC502	M52364FP	IC	
IC503	TL8838F	IC	
IC601	M52359FP	IC	
Q1	2SA1576(QRS)	TRANSISTOR	
Q2	DTC114EU	TRANSISTOR	
Q3	DTA114EU	TRANSISTOR	
Q5	DTA114EU	TRANSISTOR	
Q6	DTC114EU	TRANSISTOR	
Q7	2SA1576(QRS)	TRANSISTOR	
Q201	DTC144EE	TRANSISTOR	
Q202	2SC4617(RS)	TRANSISTOR	
Q203	DTA114EE	TRANSISTOR	
Q351	MDC02	TRANSISTOR	
Q401	DTA123EE	TRANSISTOR	
Q402	DTA143EE	TRANSISTOR	
Q403	UMW1N	PAIR TRANSISTOR	
Q404	DTA124EE	TRANSISTOR	
Q405	DTC144EE	TRANSISTOR	
Q406	DTC144EE	TRANSISTOR	
Q407	DTC144EE	TRANSISTOR	
Q408	2SC4097(QR)	TRANSISTOR	
Q502	2SC4617(QRS)	TRANSISTOR	
Q503	2SA1774(QRS)	TRANSISTOR	
Q561	DTC144EE	TRANSISTOR	
Q562	DTC144EE	TRANSISTOR	
Q563	DTC144EE	TRANSISTOR	
Q564	2SC4617(QRS)	TRANSISTOR	
Q601	2SD2114K(UV)	TRANSISTOR	
Q602	2SD2114K(UV)	TRANSISTOR	
Q603	2SD2114K(UV)	TRANSISTOR	
Q604	2SD2114K(UV)	TRANSISTOR	
Q605	2SA1774(QRS)	TRANSISTOR	
⚠ Q701	DTA143EE	TRANSISTOR	
Q702	2SC4081(R)	TRANSISTOR	
Q703	2SC4081(R)	TRANSISTOR	
Q704	2SC4081(R)	TRANSISTOR	
D2	RD22M(B1-3)-X	ZENER DIODE	
D3	1SS355	DIODE	
D301	MA132WK	DIODE	
DA1	DAP202U	DIODE	
DA2	DAP202U	DIODE	
DA3	DAP202U	DIODE	
R2	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R4	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R5	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R6	NRSA63J-221N	RESISTOR	220Ω,1/16W
R7	NRSA63J-124N	RESISTOR	120kΩ,1/16W
R8	NRVA63D-623N	MF RESISTOR	62kΩ,1/16W
R9	NRSA63J-302N	RESISTOR	3kΩ,1/16W
R10	NRVA63D-683N	MF RESISTOR	68kΩ,1/16W
R11	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R12	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R13	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R14	NRSA63J-474N	RESISTOR	470kΩ,1/16W
R17	NRSA63J-242N	RESISTOR	2.4kΩ,1/16W
R18	NRSA63J-242N	RESISTOR	2.4kΩ,1/16W
R19	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R20	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R21	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R22	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R23	NRSA63J-685N	RESISTOR	6.8MΩ,1/16W
R24	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R25	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R26	NRSA63J-221N	RESISTOR	220Ω,1/16W
R27	NRSA63J-122N	RESISTOR	1.2kΩ,1/16W
R28	NRSA63J-751N	RESISTOR	750Ω,1/16W
R29	NRSA63J-751N	RESISTOR	750Ω,1/16W
R30	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R31	NRSA63J-821N	RESISTOR	820Ω,1/16W
R32	NRSA63J-101N	RESISTOR	100Ω,1/16W
R36	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R37	NRSA63J-683N	RESISTOR	68kΩ,1/16W
R40	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R41	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R43	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R46	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R47	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R48	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R49	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R50	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R51	NRSA63J-272N	RESISTOR	2.7kΩ,1/16W
R52	NRSA63J-272N	RESISTOR	2.7kΩ,1/16W
R53	NRSA63J-751N	RESISTOR	750Ω,1/16W
R56	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R57	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R58	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R59	NRSA63J-242N	RESISTOR	2.4kΩ,1/16W
R60	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R61	NRSA63J-103N	RESISTOR,AX800U	10kΩ,1/16W
	NRSA63J-163N	RESISTOR,AX900U/U(C)	16kΩ,1/16W
R63	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R65	NRSA63J-243N	RESISTOR	24kΩ,1/16W
R66	NRSA63J-563N	RESISTOR	56kΩ,1/16W
R67	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R70	NRSA63J-474N	RESISTOR	470kΩ,1/16W
R71	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R73	NRSA63J-391N	RESISTOR	390Ω,1/16W
R201	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R202	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R203	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R204	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R205	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R206	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R207	NRSA63J-103N	RESISTOR	10kΩ,1/16W

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R208	NRSA63J-273N	RESISTOR	27kΩ,1/16W
R209	NRSA63J-331N	RESISTOR	330Ω,1/16W
R210	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R211	NRSA63J-561N	RESISTOR	560Ω,1/16W
R212	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R213	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R301	NRSA63J-2R2N	RESISTOR	2.2Ω,1/16W
R302	NRSA63J-2R2N	RESISTOR	2.2Ω,1/16W
R303	NRSA63J-2R2N	RESISTOR	2.2Ω,1/16W
R304	NRSA63J-121N	RESISTOR	120Ω,1/16W
R305	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R306	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R307	NRSA63J-154N	RESISTOR	150kΩ,1/16W
R308	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R310	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R311	NRSA63J-333N	RESISTOR	33kΩ,1/16W
R312	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R313	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R314	YU41353-R68N	RESISTOR	0.68Ω,1/2W
R351	NRSA63J-474N	RESISTOR	470kΩ,1/16W
R352	NRSA63J-154N	RESISTOR	150kΩ,1/16W
R353	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R354	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R355	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R356	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R357	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R358	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R359	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R360	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R361	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R362	YU41353-R68N	RESISTOR	0.68Ω,1/2W
R401	NRVA63D-362N	MF RESISTOR	3.6kΩ,1/16W
R402	NRVA63D-302N	MF RESISTOR	3kΩ,1/16W
R403	NRVA63D-222N	MF RESISTOR	2.2kΩ,1/16W
R404	NRSA63J-820N	RESISTOR	82Ω,1/16W
R405	NRSA63J-820N	RESISTOR	82Ω,1/16W
R406	NRSA63J-820N	RESISTOR	82Ω,1/16W
R407	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R409	NRSA63J-100N	RESISTOR	10Ω,1/16W
R410	NRVA63D-123N	MF RESISTOR	12kΩ,1/16W
R411	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R412	NRSA63J-272N	RESISTOR	2.7kΩ,1/16W
R413	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R414	NRSA63J-563N	RESISTOR	56kΩ,1/16W
R416	NRSA63J-123N	RESISTOR	12kΩ,1/16W
R417	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R418	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R419	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R420	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R421	NRSA63J-823N	RESISTOR	82kΩ,1/16W
R422	NRSA63J-561N	RESISTOR	560Ω,1/16W
R423	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R424	NRSA63J-822N	RESISTOR	8.2kΩ,1/16W
R425	NRSA63J-334N	RESISTOR	330kΩ,1/16W
R426	NRSA63J-470N	RESISTOR	47Ω,1/16W
R428	NRSA63J-155N	RESISTOR	1.5MΩ,1/16W
R429	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R430	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R431	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R433	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R434	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R436	NRSA63J-561N	RESISTOR	560Ω,1/16W
R437	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R438	NRSA63J-182N	RESISTOR	1.8kΩ,1/16W
R439	NRSA63J-123N	RESISTOR	12kΩ,1/16W
R443	NRSA63J-331N	RESISTOR	330Ω,1/16W
R444	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R445	NRVA63D-104N	MF RESISTOR	100kΩ,1/16W
R446	NRVA63D-104N	MF RESISTOR	100kΩ,1/16W
R447	NRVA63D-513N	MF RESISTOR	51kΩ,1/16W
R449	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R450	NRVA63D-682N	MF RESISTOR	6.8kΩ,1/16W
R451	NRVA63D-272N	MF RESISTOR	2.7kΩ,1/16W
R452	NRVA63D-821N	MF RESISTOR	820Ω,1/16W
R453	NRVA63D-302N	MF RESISTOR	3kΩ,1/16W
R454	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R455	NRSA63J-3R3N	RESISTOR	3.3Ω,1/16W
R456	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R457	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R501	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R502	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R503	NRSA63J-182N	RESISTOR	1.8kΩ,1/16W
R506	NRSA63G-102N	RESISTOR	1kΩ,1/16W
R507	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R508	NRSA63J-271N	RESISTOR	270Ω,1/16W
R509	NRSA63J-122N	RESISTOR	1.2kΩ,1/16W
R510	NRSA63J-0R0N	RESISTOR,AX900U/U(C)	0Ω,1/16W
R511	NRSA63J-0R0N	RESISTOR,AX800U	0Ω,1/16W
R513	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R514	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R515	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R516	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R517	NRSA63J-683N	RESISTOR	68kΩ,1/16W
R518	NRSA63J-224N	RESISTOR	220kΩ,1/16W
R519	NRSA63J-821N	RESISTOR	820Ω,1/16W
R520	NRSA63J-474N	RESISTOR	470kΩ,1/16W
R521	NRSA63J-333N	RESISTOR	33kΩ,1/16W
R523	NRSA63J-272N	RESISTOR	2.7kΩ,1/16W
R524	NRSA63J-681N	RESISTOR	680Ω,1/16W
R525	NRSA63J-272N	RESISTOR	2.7kΩ,1/16W
R526	NRSA63J-182N	RESISTOR	1.8kΩ,1/16W
R527	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
R532	NRSA63J-183N	RESISTOR	18kΩ,1/16W
R533	NRSA63J-122N	RESISTOR	1.2kΩ,1/16W
R535	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R536	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
R537	NRSA63J-511N	RESISTOR	510Ω,1/16W
R538	NRSA63J-681N	RESISTOR	680Ω,1/16W
R539	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R563	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R564	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R566	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R567	NRSA63J-751N	RESISTOR	750Ω,1/16W
R568	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R569	NRSA63J-563N	RESISTOR	56kΩ,1/16W
R570	NRSA63J-183N	RESISTOR	18kΩ,1/16W
R571	NRSA63J-823N	RESISTOR	82kΩ,1/16W
R572	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R573	NRSA63J-683N	RESISTOR	68kΩ,1/16W
R574	NRSA63J-563N	RESISTOR	56kΩ,1/16W
R575	NRSA63J-823N	RESISTOR	82kΩ,1/16W
R576	NRSA63J-471N	RESISTOR	470Ω,1/16W
R577	NRSA63J-561N	RESISTOR	560Ω,1/16W
R578	NRSA63J-112N	RESISTOR	1.1kΩ,1/16W

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R579	NRSA63J-821N	RESISTOR	820Ω,1/16W
	R580	NRSA63J-331N	RESISTOR	330Ω,1/16W
	R581	NRSA63J-681N	RESISTOR	680Ω,1/16W
	R582	NRSA63J-753N	RESISTOR	75kΩ,1/16W
	R583	NRSA63J-563N	RESISTOR	56kΩ,1/16W
	R584	NRSA63J-753N	RESISTOR	75kΩ,1/16W
	R585	NRSA63J-563N	RESISTOR	56kΩ,1/16W
	R588	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R589	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R590	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R595	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R601	NRSA63J-331N	RESISTOR	330Ω,1/16W
	R602	NRSA63J-511N	RESISTOR	510Ω,1/16W
	R603	NRSA63J-561N	RESISTOR	560Ω,1/16W
	R604	NRSA63J-331N	RESISTOR	330Ω,1/16W
	R605	NRSA63J-511N	RESISTOR	510Ω,1/16W
	R606	NRSA63J-331N	RESISTOR	330Ω,1/16W
	R608	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
	R609	NRSA63J-331N	RESISTOR	330Ω,1/16W
	R610	NRSA63J-511N	RESISTOR	510Ω,1/16W
	R611	NRVA62D-914N	RESISTOR	910kΩ,1/16W
	R612	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
	R613	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R614	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
	R615	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R616	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R617	NRSA63J-223N	RESISTOR	22kΩ,1/16W
	R618	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R619	NRSA63J-513N	RESISTOR	51kΩ,1/16W
	R620	NRSA63J-513N	RESISTOR	51kΩ,1/16W
	R621	NRSA63J-513N	RESISTOR	51kΩ,1/16W
	R623	NRSA63J-101N	RESISTOR	100Ω,1/16W
	R624	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
	R629	NRSA63J-513N	RESISTOR	51kΩ,1/16W
	R630	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
	R631	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W
	R701	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R703	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R704	NRSA63J-153N	RESISTOR	15kΩ,1/16W
	R705	NRSA63J-473N	RESISTOR	47kΩ,1/16W
	R706	NRSA63J-473N	RESISTOR	47kΩ,1/16W
	R707	NRSA63J-5R6N	RESISTOR	5.6Ω,1/16W
	R708	NRSA63J-5R6N	RESISTOR	5.6Ω,1/16W
	RA1	PERE0532-104JY	NETWORK RESISTOR	100kΩ,1/16W
	RA2	PERE0532-105JY	NETWORK RESISTOR	1MΩ,1/16W
	RA3	PERE0560-105JY	NETWORK RESISTOR	1MΩ,1/16W
	RA4	PERE0532-472JY	NETWORK RESISTOR	4.7kΩ,1/16W
	RA6	PERE0560-222JY	NETWORK RESISTOR	2.2kΩ,1/16W
	RA7	PERE0560-222JY	NETWORK RESISTOR	2.2kΩ,1/16W
	RA8	PERE0560-473JY	NETWORK RESISTOR	47kΩ,1/16W
	RA9	PERE0560-473JY	NETWORK RESISTOR	47kΩ,1/16W
	RA10	PERE0532-222JY	NETWORK RESISTOR	2.2kΩ,1/16W
	RA11	PERE0532-222JY	NETWORK RESISTOR	2.2kΩ,1/16W
	RA12	PERE0560-103JY	NETWORK RESISTOR	10kΩ,1/16W
	RA13	PERE0560-222JY	NETWORK RESISTOR	2.2kΩ,1/16W
	RA14	PERE0532-103JY	NETWORK RESISTOR	10kΩ,1/16W
	RA15	PERE0532-222JY	NETWORK RESISTOR	2.2kΩ,1/16W
	RA16	PERE0532-103JY	NETWORK RESISTOR	10kΩ,1/16W
	C3	NEA70JM-226NZ	E CAPACITOR	22μF,6.3V
	C4	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C5	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C6	NEA70JM-226NZ	E CAPACITOR	22μF,6.3V
	C9	NCT06CH-121A	CAPACITOR	120pF,50V
	C10	NCT06CH-270A	CAPACITOR	27pF,50V
	C11	NCT06CH-121A	CAPACITOR	120pF,50V
	C12	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C13	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C14	NCB31HK-472A	CAPACITOR	0.0047μF,50V
	C15	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C16	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C17	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C18	NCT06CH-180A	CAPACITOR	18pF,50V
	C19	NCT06CH-220A	CAPACITOR	22pF,50V
	C21	NCT06CH-120A	CAPACITOR	12pF,50V
	C22	NCT06CH-150A	CAPACITOR	15pF,50V
	C23	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C24	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C27	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C28	NCB31HK-102A	CAPACITOR	0.001μF,50V
	C29	NCB31EK-223A	CAPACITOR	0.022μF,25V
	C30	NCB31HK-102A	CAPACITOR	0.001μF,50V
	C201	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C202	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C203	NCB31CK-333A	CAPACITOR	0.033μF,16V
	C204	NCB31CK-333A	CAPACITOR	0.033μF,16V
	C205	NCB31HK-562A	CAPACITOR	0.0056μF,50V
	C206	QCYA1CK-154	CAPACITOR	0.15μF,16V
	C207	NEA70JM-226NZ	E CAPACITOR	22μF,6.3V
	C208	NEA70JM-226NZ	E CAPACITOR	22μF,6.3V
	C209	NEE21CM-105RY	E CAPACITOR	1μF,16V
	C210	NEE21CM-105RY	E CAPACITOR	1μF,16V
	C212	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C213	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C214	NEA71CM-106NZ	E CAPACITOR	10μF,16V
	C215	NCT06CH-101A	CAPACITOR	100pF,50V
	C301	QCF81CZ-225	CAPACITOR	2.2μF,16V
	C302	QCF81CZ-225	CAPACITOR	2.2μF,16V
	C303	QCF81CZ-225	CAPACITOR	2.2μF,16V
	C304	NEA71HM-105NZ	E CAPACITOR	1μF,50V
	C305	NCB31HK-681A	CAPACITOR	680pF,50V
	C306	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C307	NEE21DM-474RY	E CAPACITOR	0.47μF,20V
	C308	NCB31HK-331A	CAPACITOR	330pF,50V
	C309	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C312	NCB31HK-332A	CAPACITOR	0.0033μF,50V
	C313	NCB31CK-473A	CAPACITOR	0.047μF,16V
	C314	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C315	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C316	NEA71CM-106NZ	E CAPACITOR	10μF,16V
	C351	QCFA1EZ-224	CAPACITOR	0.22μF,25V
	C352	QCFA1EZ-224	CAPACITOR	0.22μF,25V
	C353	QCFA1EZ-224	CAPACITOR	0.22μF,25V
	C354	NCB31EK-223A	CAPACITOR	0.022μF,25V
	C355	NCB31EK-223A	CAPACITOR	0.022μF,25V
	C356	NCB31EK-223A	CAPACITOR	0.022μF,25V
	C357	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C358	QCYA1CK-124	CAPACITOR	0.12μF,16V
	C359	QCYA1CK-124	CAPACITOR	0.12μF,16V
	C360	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C362	QCFA1CZ-105	CAPACITOR	1μF,16V
	C363	NEE20JM-475RY	E CAPACITOR	4.7μF,6.3V
	C401	NCB31HK-331A	CAPACITOR	330pF,50V
	C402	YU42058-H476Z	E CAPACITOR	47μF
	C404	QCFA1CZ-105	CAPACITOR	1μF,16V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C405	NCB31HK-391A	CAPACITOR	390pF,50V
	C406	NCB31EK-123A	CAPACITOR	0.012μF,25V
	C407	NCB31HK-391A	CAPACITOR	390pF,50V
	C409	NCB31HK-681A	CAPACITOR	680pF,50V
	C410	NEE21AM-335RY	E CAPACITOR	3.3μF,10V
	C411	NCB31HK-103A	CAPACITOR	0.01μF,50V
	C412	NEE20JM-226RY	E CAPACITOR	22μF,6.3V
	C413	NCB31HK-332A	CAPACITOR	0.0033μF,50V
	C414	NEE21CM-105RY	E CAPACITOR	1μF,16V
	C415	QCYA1EK-563	CAPACITOR	0.056μF,25V
	C416	NCB31HK-332A	CAPACITOR	0.0033μF,50V
	C418	NEA70GM-476NZ	E CAPACITOR	47μF,4.0V
	C419	NEA70GM-476NZ	E CAPACITOR	47μF,4.0V
	C421	NEE20JM-475RY	E CAPACITOR	4.7μF,6.3V
	C422	NEA70JM-226NZ	E CAPACITOR	22μF,6.3V
	C424	YU42058-A336Z	E CAPACITOR	33μF
	C426	NEE21CM-105RY	E CAPACITOR	1μF,16V
	C427	NCB31EK-223A	CAPACITOR	0.022μF,25V
	C428	NEE21EM-474RY	E CAPACITOR	0.47μF,25V
	C430	NCB31HK-272A	CAPACITOR	0.0027μF,50V
	C431	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C432	NCT08CH-101A	CAPACITOR	100pF,50V
	C433	NCT08CH-101A	CAPACITOR	100pF,50V
	C434	NCT08CH-101A	CAPACITOR	100pF,50V
	C435	NCT08CH-101A	CAPACITOR	100pF,50V
	C436	NFV41HJ-273AY	F CAPACITOR	0.027μF,50V
	C437	NCS31HJ-561A	CAPACITOR	560pF,50V
	C438	NCB31HK-822A	CAPACITOR	0.0082μF,50V
	C439	YU41970-A226XW	E CAPACITOR	22μF
	C501	QCFA1EZ-333	CAPACITOR	0.033μF,25V
	C502	NEA71HM-105NZ	E CAPACITOR	1μF,50V
	C503	NCB31EK-153A	CAPACITOR	0.015μF,25V
	C504	NEA71EM-475NZ	E CAPACITOR	4.7μF,25V
	C505	NEA71HM-105NZ	E CAPACITOR	1μF,50V
	C506	NCT08CH-680A	CAPACITOR	68pF,50V
	C508	NCB31EK-223A	CAPACITOR	0.022μF,25V
	C509	NEE21EM-474RY	E CAPACITOR	0.47μF,25V
	C510	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C511	QCFA1EZ-683	CAPACITOR	0.068μF,25V
	C512	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C513	NCB31HK-102A	CAPACITOR	0.001μF,50V
	C514	NEA71CM-106NZ	E CAPACITOR	10μF,16V
	C516	NEA70JM-476NZ	E CAPACITOR	47μF,6.3V
	C518	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C520	QCYA1CK-224	CAPACITOR	0.22μF,16V
	C521	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C522	NEA71HM-474NZ	E CAPACITOR	0.47μF,50V
	C523	NEA71HM-225NZ	E CAPACITOR	2.2μF,50V
	C525	NEE21AM-335RY	E CAPACITOR	3.3μF,10V
	C526	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C527	NEA71EM-475NZ	E CAPACITOR	4.7μF,25V
	C528	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C529	NEE21AM-335RY	E CAPACITOR	3.3μF,10V
	C530	NCB31EK-223A	CAPACITOR	0.022μF,25V
	C532	NEA71HM-474NZ	E CAPACITOR	0.47μF,50V
	C533	NCT06CH-331A	CAPACITOR	330pF,50V
	C534	NCS31HJ-220A	CAPACITOR	22pF,50V
	C535	QCYA1CK-224	CAPACITOR	0.22μF,16V
	C536	NCS31HJ-151A	CAPACITOR	150pF,50V
	C538	NEA71HM-335NZ	E CAPACITOR	3.3μF,50V
	C539	NCB31EK-223A	CAPACITOR	0.022μF,25V
	C540	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C541	QCFA1EZ-473	CAPACITOR	0.047μF,25V
	C542	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C543	NCS31HJ-390A	CAPACITOR	39pF,50V
	C546	NCS31HJ-151A	CAPACITOR	150pF,50V
	C548	NCS31HJ-560A	CAPACITOR	56pF,50V
	C549	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C550	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C551	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C552	QCFA1CZ-105	CAPACITOR	1μF,16V
	C553	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C554	NCS31HJ-820A	CAPACITOR	82pF,50V
	C555	NCS31HJ-330A	CAPACITOR	33pF,50V
	C556	NCS31HJ-101A	CAPACITOR	100pF,50V
	C560	NEA70JM-107NP	E CAPACITOR	100μF,6.3V
	C561	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C562	NEA70JM-476NZ	E CAPACITOR	47μF,6.3V
	C564	NCS31HJ-151A	CAPACITOR	150pF,50V
	C565	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C566	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C567	NCS31HJ-820A	CAPACITOR	82pF,50V
	C568	NCB31HK-821A	CAPACITOR	820pF,50V
	C570	NCS31HJ-390A	CAPACITOR	39pF,50V
	C571	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C572	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C573	NCS31HJ-270A	CAPACITOR	27pF,50V
	C601	YU41970-A226XW	E CAPACITOR	22μF
	C602	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C603	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C604	NCS31HJ-180A	CAPACITOR	18pF,50V
	C605	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C607	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C608	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C609	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C610	NCS31HJ-100A	CAPACITOR	10pF,50V
	C611	NCS31HJ-120A	CAPACITOR	12pF,50V
	C612	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C613	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C614	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C616	NCS31HJ-270A	CAPACITOR	27pF,50V
	C617	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C618	NCS31HJ-181A	CAPACITOR	180pF,50V
	C619	NCB31HK-152A	CAPACITOR	0.0015μF,50V
	C620	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	C621	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C622	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C623	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C624	QCFA1CZ-105	CAPACITOR	1μF,16V
	C625	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C626	NCS31HJ-220A	CAPACITOR	22pF,50V
	C627	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C629	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C630	NCF31EZ-103A	CAPACITOR	0.01μF,25V
	C631	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C632	NCS31HJ-101A	CAPACITOR	100pF,50V
	C634	NCB31HK-102A	CAPACITOR	0.001μF,50V
	C637	NCB31HK-682A	CAPACITOR	0.0068μF,50V
	C638	NCT06CH-5R0A	CAPACITOR	5pF,50V
	C701	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C702	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C703	NCT06CH-181A	CAPACITOR	180pF,50V
	C704	NCT06CH-181A	CAPACITOR	180pF,50V
	C705	NCT06CH-271A	CAPACITOR	270pF,50V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C706	QCTA1CH-681	CAPACITOR	680pF,16V
	L1	PELN0840-8R2KY	COIL	8.2μH
⚠	L401	PELN0755-P	OSC TRANSFORMER	
	L402	YU40740-101K	COIL	100μH
	L502	YU40740-470K	COIL	47μH
	L505	YU41134-270JY	COIL	27μH
	L507	YU41134-560JY	COIL	56μH
	L508	YU41135-470	COIL	47μH
	L509	YU41134-271JY	COIL	270μH
	L561	YU40740-470K	COIL	47μH
	L562	YU41134-680J	COIL	68μH
	L563	PU58201-470J	COIL	47μH
	L564	YU41134-560JY	COIL	56μH
	L565	YU41134-150J	COIL	15μH
	L601	YU40740-470K	COIL	47μH
	L602	YU41134-331J	COIL	330μH
	L604	YU41134-271JY	COIL	270μH
	L701	YU41135-470	COIL	47μH
	L702	YU41134-1R2MY	COIL	1.2μH
⚠	L703	YU41368	CHIP OSC COIL	
	DL501	PEVB0601	1H DELAY LINE	
	LC501	PELN1000-Z	LC TRAP	
⚠	X1	PEVB0588	CRYSTAL RESONATOR	
⚠	X2	YU40141	CRYSTAL RESONATOR	
⚠	X501	PEVB0559	CRYSTAL RESONATOR	
	CN1	PEMC0855-014-R	CONNECTOR	
	CN2	PEMC0855-011-R	CONNECTOR	
	CN3	PEMC0855-018-R	CONNECTOR	
	CN4	YU41356-2-P	CONNECTOR	
	CN6	YU41356-2-P	CONNECTOR	
	CN7	PEMC0855-016-R	CONNECTOR	
	CN8	PEMC0855-011-R	CONNECTOR	
	CN9	PEMC1073-003-P	CONNECTOR	
	CN10	PEMC0855-018-R	CONNECTOR	
	CN13	PEMC1095-013-R	CONNECTOR	
	CN14	PEMC0855-010-R	CONNECTOR	
	CN15	PEMC0880-018-R	CONNECTOR	
	CN16	PEMC0880-018-R	CONNECTOR	
	CN17	PEMC0880-018-R	CONNECTOR	
	CN20	PEMC0987-030-R	CONNECTOR	

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REAR BOARD ASSEMBLY <02>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA1	YB20726A1-02	REAR BOARD ASSY,AX900U/U(C)	
		YB20726B1-02	REAR BOARD ASSY,AX800U	
	IC1	MB3785APFV	IC	
	Q1	DTA143EU	TRANSISTOR	
	Q3	2SB1302(ST)	TRANSISTOR	
	Q6	MPL1	TRANSISTOR	
	Q7	2SB1121(TU)	TRANSISTOR	
	Q8	MPL1	TRANSISTOR	
	Q11	2SC4081(S)	TRANSISTOR	
	Q13	DTC144EU	TRANSISTOR	
	Q201	2SB1308(QR)	TRANSISTOR	
	Q202	DTC124EU	TRANSISTOR	
	Q203	2SB1302(ST)	TRANSISTOR	
	Q204	DTC143EU	TRANSISTOR	
	Q205	2SB1308(QR)	TRANSISTOR	
	D1	MA736	SB DIODE	
	D2	DWA010	SB DIODE	
	D3	DAN202U	DIODE	
⚠	D201	MA704	DIODE	
	R3	NRVA63D-103N	MF RESISTOR	10kΩ,1/16W
	R4	NRVA63D-103N	MF RESISTOR	10kΩ,1/16W
	R5	NRVA63D-823N	MF RESISTOR	82kΩ,1/16W
	R6	NRVA63D-223N	MF RESISTOR	22kΩ,1/16W
	R7	NRVA63D-682N	MF RESISTOR	6.8kΩ,1/16W
	R8	NRVA63D-512N	MF RESISTOR	5.1kΩ,1/16W
	R9	NRVA63D-113N	MF RESISTOR	11kΩ,1/16W
	R10	NRVA63D-103N	MF RESISTOR	10kΩ,1/16W
	R11	NRSA63J-274N	RESISTOR	270kΩ,1/16W
	R12	NRSA63J-104N	RESISTOR	100kΩ,1/16W
	R13	NRVA63D-103N	MF RESISTOR	10kΩ,1/16W
	R14	NRVA63D-103N	MF RESISTOR	10kΩ,1/16W
	R17	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	R18	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	R19	NRSA63J-471N	RESISTOR	470Ω,1/16W
	R20	NRSA63J-391N	RESISTOR	390Ω,1/16W
	R21	NRSA63J-470N	RESISTOR	47Ω,1/16W
	R22	NRVA63D-303N	MF RESISTOR	30kΩ,1/16W
	R23	NRVA63D-103N	MF RESISTOR	10kΩ,1/16W
	R26	NRVA63D-243N	RESISTOR	24kΩ,1/16W
	R27	NRVA63D-332N	MF RESISTOR	3.3kΩ,1/16W
	R28	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
	R29	NRVA63D-333N	MF RESISTOR	33kΩ,1/16W
	R30	NRVA63D-302N	MF RESISTOR	3kΩ,1/16W
	R31	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
	R32	NRVA63D-363N	MF RESISTOR	36kΩ,1/16W
	R33	NRVA63D-223N	MF RESISTOR	22kΩ,1/16W
	R35	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R37	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R38	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
	R101	QRSA08J-680YN	RESISTOR	68Ω,1/10W
	R102	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	R104	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
	R105	NRSA63J-623N	RESISTOR	62kΩ,1/16W
	R106	NRSA63J-152N	RESISTOR	1.5kΩ,1/16W
	R107	NRSA63J-203N	RESISTOR	20kΩ,1/16W
	R108	NRSA63J-152N	RESISTOR	1.5kΩ,1/16W
	R201	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R202	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	R203	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R204	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R205	NRSA63J-561N	RESISTOR	560Ω,1/16W
⚠	R206	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	C1	QCY81CK-105	CAPACITOR	1μF,16V
	C2	QCY81CK-105	CAPACITOR	1μF,16V
	C3	QCY81CK-105	CAPACITOR	1μF,16V
	C5	QCY81CK-105	CAPACITOR	1μF,16V
	C6	QCY81CK-105	CAPACITOR	1μF,16V
	C7	QCY81CK-105	CAPACITOR	1μF,16V
	C9	NCS31HJ-561A	CAPACITOR	560pF,50V
	C10	NCB31HK-102A	CAPACITOR	0.001μF,50V
	C11	NCB31HK-472A	CAPACITOR	0.0047μF,50V
	C12	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C13	QCYA1CK-224	CAPACITOR	0.22μF,16V
	C14	NCT06CH-431A	CAPACITOR	430pF,50V
	C15	QCFA1EZ-104	CAPACITOR	0.1μF,25V
	C17	QCYA1EK-104	CAPACITOR	0.1μF,25V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C18	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C19	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C20	NCS31HJ-561A	CAPACITOR	560pF,50V
	C21	NCB31HK-102A	CAPACITOR	0.001μF,50V
	C22	NCB31HK-472A	CAPACITOR	0.0047μF,50V
	C23	NCB31HK-472A	CAPACITOR	0.0047μF,50V
	C24	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C25	NCB31EK-223A	CAPACITOR	0.022μF,25V
	C26	QCY81CK-105	CAPACITOR	1μF,16V
	C27	QCY81CK-105	CAPACITOR	1μF,16V
	C29	QCY81CK-105	CAPACITOR	1μF,16V
	C30	NEH81CM-226NZ	E CAPACITOR	22μF,16V
	C32	QCY81CK-105	CAPACITOR	1μF,16V
	C33	QCY81CK-105	CAPACITOR	1μF,16V
	C34	NCB31HK-332A	CAPACITOR	0.0033μF,50V
	C35	QCY81CK-105	CAPACITOR	1μF,16V
	C36	QCY81CK-105	CAPACITOR	1μF,16V
	C37	QCY81CK-105	CAPACITOR	1μF,16V
	C38	QCY81CK-105	CAPACITOR	1μF,16V
	C39	QCY81CK-105	CAPACITOR	1μF,16V
	C41	QCY81CK-105	CAPACITOR	1μF,16V
	C42	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C46	NEH81CM-226NZ	E CAPACITOR	22μF,16V
	C47	QCY81CK-105	CAPACITOR	1μF,16V
	C49	NCB31HK-102A	CAPACITOR	0.001μF,50V
	C101	QER40GM-477	E CAPACITOR	470μF,4.0V
	C102	NCS31HJ-101A	CAPACITOR	100pF,50V
	C201	NEA71CM-106NZ	E CAPACITOR	10μF,16V
	C202	QER41AM-227	E CAPACITOR	220μF,10V
	L1	PELN0790-100MP	COIL	10μH
	L2	PELN0790-100MP	COIL	10μH
	L3	PELN0790-100MP	COIL	10μH
	L4	PELN0790-100MP	COIL	10μH
	L5	PELN0790-220MP	COIL	22μH
	L6	PELN0325-150KZ	COIL	15μH
	L7	PELN0325-330KZ	COIL	33μH
	L8	PELN0325-330KZ	COIL	33μH
	L9	PELN0790-390MP	COIL	39μH
	L10	PELN0325-220KZ	COIL	22μH
	SW1	PESW0605-02-R	PUSH SWITCH	
	SW2	PESW0675	SLIDE SWITCH	
	SW3	PESW0662	SLIDE SWITCH	
	T1	PELN1086-Z	SW TRANS	
	J1	YQ31845-2	PIN JACK(SW)	
	J2	PEMC1091	MINI JACK	
	KNB1	YQ43806-2	KNOB(LIGHT)	
	KNB2	YQ43087	KNOB(APS)	
⚠	TML1	YQ31792	BATTERY TERMINAL UNIT	
	TML2	YQ31793	BATTERY TERMINAL UNIT	
	CN1	PEMC0880-018-R	CONNECTOR	
	CN2	PEMC0880-018-R	CONNECTOR	
	CN3	PEMC1073-007-R	CONNECOTR	
	CN4	PEMC1073-002-P	CONNECTOR	
	CN5	PEMC1073-005-R	CONNECTOR	
⚠	CP1	ICP-N38	CIRCUIT PROTECTOR	
⚠	CP2	ICP-N38	CIRCUIT PROTECTOR	
⚠	CP3	ICP-N38	CIRCUIT PROTECTOR	
⚠	CP4	ICP-N10	CIRCUIT PROTECTOR	
⚠	CP5	ICP-N10	CIRCUIT PROTECTOR,AX900U/U(C)	

#⚠ REF No. PART No. PART NAME, DESCRIPTION

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SENSOR BOARD ASSEMBLY <05>

REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	YU42052-1-2	SENSOR BOARD ASSY

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APS BOARD ASSEMBLY <07>

REF No.	PART No.	PART NAME, DESCRIPTION
PWBA2	YB20726A2-02	APS BOARD ASSY
PS1	PESC1163	PH INTERRUPTER
ML1	ML-Y00719A	WIRE

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IR BOARD ASSEMBLY <08>

REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	YQ31871-1-1	IR BOARD ASSY

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OPERATION(CAMERA)BOARD ASSEMBLY <09>

REF No.	PART No.	PART NAME, DESCRIPTION
PWBA	YQ20803-7-5	OPERATION(CAMERA)BOARD ASSY

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CCD BOARD ASSEMBLY <11>

REF No.	PART No.	PART NAME, DESCRIPTION	
PWBA	YB20725A-02-SS	CCD BOARD ASSY	
IC101	MN3112SA	IC	
IC201	JCY0041	IC	
IC301	NN2037FAQ	IC	
IC302	TK11250M	IC	
Q101	2SC4081(QR)	TRANSISTOR	
Q102	2SC3931(CD)	TRANSISTOR	
Q103	XP4501	TRANSISTOR	
D101	1SS355	DIODE	
D102	1SS355	DIODE	
D103	MA143	DIODE	
D104	1SS355	DIODE	
D201	MA732	SB DIODE	
R101	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R102	NRSA63J-203N	RESISTOR	20kΩ,1/16W
R103	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R104	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R105	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R106	NRSA63J-513N	RESISTOR	51kΩ,1/16W
R107	NRSA63J-332N	RESISTOR	3.3kΩ,1/16W

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R108	NRSA63J-105N	RESISTOR	1MΩ,1/16W
	R109	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
	R110	NRSA63J-104N	RESISTOR	100kΩ,1/16W
	R111	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R112	NRSA63J-432N	RESISTOR	4.3kΩ,1/16W
	R113	NRSA63J-153N	RESISTOR	15kΩ,1/16W
	R114	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R115	NRSA63J-100N	RESISTOR	10Ω,1/16W
	R202	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R203	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R204	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R210	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R211	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R212	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R213	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R214	NRSA63J-151N	RESISTOR	150Ω,1/16W
	R218	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R220	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R222	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R223	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R225	NRSA63J-100N	RESISTOR	10Ω,1/16W
	R226	NRSA63J-100N	RESISTOR	10Ω,1/16W
	R229	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R231	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R232	NRSA63J-241N	RESISTOR	240Ω,1/16W
	R233	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R234	NRSA63J-100N	RESISTOR	10Ω,1/16W
	R235	NRSA63J-100N	RESISTOR	10Ω,1/16W
	R238	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R239	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R240	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R301	NRSA63J-331N	RESISTOR	330Ω,1/16W
	R303	NRSA63J-681N	RESISTOR	680Ω,1/16W
	R304	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R305	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R306	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	R307	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R309	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R311	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	R312	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	R313	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	C101	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C102	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C103	NCB31EK-103A	CAPACITOR	0.01μF,25V
	C104	QCFA1CZ-105	CAPACITOR	1μF,16V
	C105	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C106	YU41970-J106AW	E CAPACITOR	10μF,6.3V
	C107	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C108	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C109	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C110	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C111	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C112	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C113	NEE21CM-105RY	E CAPACITOR	1μF,16V
	C114	NEA71CM-106NZ	E CAPACITOR	10μF,16V
	C115	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C116	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C117	NEA70JM-226NZ	E CAPACITOR	22μF,6.3V
	C118	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C119	NEA71EM-475NZ	E CAPACITOR	4.7μF,25V
	C120	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C121	NEA71EM-475NZ	E CAPACITOR	4.7μF,25V
	C123	NCF31CZ-104A	CAPACITOR	0.1μF,16V

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	C201	NEE21CM-105RY	E CAPACITOR	1μF,16V
	C203	NCT07CH-680A	CAPACITOR	68pF,50V
	C204	YU41970-J106AW	E CAPACITOR	10μF,6.3V
	C205	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C206	NEE21AM-106RY	E CAPACITOR	10μF,10V
	C207	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C301	NEE20GM-685RY	E CAPACITOR	6.8μF,4.0V
	C302	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C303	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C304	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C305	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C306	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C307	NCT07CH-510A	CAPACITOR	51pF,50V
	C308	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C309	YU41970-J106AW	E CAPACITOR	10μF,6.3V
	C310	YU41970-J106AW	E CAPACITOR	10μF,6.3V
	C311	YU41970-J106AW	E CAPACITOR	10μF,6.3V
	C312	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C313	NEE21AM-106RY	E CAPACITOR	10μF,10V
	C314	YU41970-J106AW	E CAPACITOR	10μF,6.3V
	C315	NCF31CZ-473A	CAPACITOR	0.047μF,16V
	C316	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C317	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C318	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C319	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C320	QCYA1EK-104	CAPACITOR	0.1μF,25V
	C321	NCF31CZ-104A	CAPACITOR	0.1μF,16V
	C322	NEE21AM-106RY	E CAPACITOR	10μF,10V
	L101	YU40740-220K	COIL	22μH
	L102	YU40740-220K	COIL	22μH
	L103	YU40740-220K	COIL	22μH
	L104	YU40740-220K	COIL	22μH
	L105	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	L106	PELN1068-601Y	FERRATE BEADS	
	L107	PELN1068-601Y	FERRATE BEADS	
	L108	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	L109	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
	L110	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	L201	YU40740-220K	COIL	22μH
	L202	YU40740-220K	COIL	22μH
	L301	YU40740-220K	COIL	22μH
	L302	YU40740-220K	COIL	22μH
⚠	X201	PEVB0498-P	CXO	
	CN101	PEMC1071	CCD SOCKET	
	CN102	PEMC0880-028-X	CONNECTOR	
	CN103	YU41356-7-R	CONNECTOR	

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PROCESS BOARD ASSEMBLY <12>

PWBA	YB10132A-01-SS	PROCESS BOARD ASSY
IC401	MN65761T	IC
IC501	MN673211JFJ	IC
IC502	MN5203	IC
IC503	JCY0034	IC
IC504	TC7SH08FU	IC
IC601	JCY0033	IC
IC602	ZA4035	IC
IC701	PST9130N	IC

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
IC702	S-2927AIF10G-W	IC	
IC703	MN1020701J2D	IC	
IC704	M62366GP	IC	
IC705	TC7W08F	IC	
IC706	XRA10358F	IC	
IC707	TC7S04F	IC	
IC708	TK11235M	IC	
IC801	MN65703T	IC	
IC802	EHDGA1450	IC	
	or EHDGA1488	IC	
IC803	AN2458SH	IC	
IC901	NJM3416V	IC	
IC902	BA10324AF	IC	
IC903	SPC17A85ZVM	IC	
IC904	SPC17A85ZVM	IC	
IC905	TC7S08F	IC	
IC906	TK11250M	IC	
Q401	2SC3936(BC)	TRANSISTOR	
Q801	2SC3936(BC)	TRANSISTOR	
Q802	2SC3936(BC)	TRANSISTOR	
Q803	2SC3936(BC)	TRANSISTOR	
Q804	XP4501	TRANSISTOR	
Q805	2SC3936(BC)	TRANSISTOR	
Q806	XP4601	TRANSISTOR	
Q901	2SC3936(BC)	TRANSISTOR	
Q902	XP1216	TRANSISTOR	
Q903	XP1216	TRANSISTOR	
Q904	XP4601	TRANSISTOR	
Q905	DTC144EE	TRANSISTOR	
Q906	2SA1576(QR)	TRANSISTOR	
D701	RB715F	DIODE	
D901	IMN10	DIODE	
D902	MA8039	ZENER DIODE	
R401	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R402	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R403	NRSA63J-681N	RESISTOR	680Ω,1/16W
R508	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R509	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R517	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R520	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R601	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R604	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R605	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R607	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R701	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R702	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R703	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R704	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R705	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R710	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R712	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R713	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R715	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R716	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R717	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R718	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R719	NRSA63J-221N	RESISTOR	220Ω,1/16W
R720	NRSA63J-221N	RESISTOR	220Ω,1/16W
R721	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R723	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R724	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R725	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R726	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R727	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R728	NRSA63J-822N	RESISTOR	8.2kΩ,1/16W
R729	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R730	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R731	NRSA63J-824N	RESISTOR	820kΩ,1/16W
R732	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R733	NRSA63J-824N	RESISTOR	820kΩ,1/16W
R734	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R736	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R737	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R739	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R740	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R741	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R743	NRSA63J-474N	RESISTOR	470kΩ,1/16W
R804	NRSA63J-912N	RESISTOR	9.1kΩ,1/16W
R806	NRSA63J-113N	RESISTOR	11kΩ,1/16W
R807	NRSA63J-243N	RESISTOR	24kΩ,1/16W
R809	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R810	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R811	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R812	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R814	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R815	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R816	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R817	NRSA63J-333N	RESISTOR	33kΩ,1/16W
R818	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R819	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R820	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R821	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R822	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R823	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R824	NRSA63J-823N	RESISTOR	82kΩ,1/16W
R825	NRSA63J-823N	RESISTOR	82kΩ,1/16W
R826	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R827	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R828	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R829	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R830	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R831	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R832	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R833	NRSA63J-331N	RESISTOR	330Ω,1/16W
R836	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R837	NRSA63J-203N	RESISTOR	20kΩ,1/16W
R838	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R839	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R840	NRSA63J-183N	RESISTOR	18kΩ,1/16W
R841	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R842	NRSA63J-182N	RESISTOR	1.8kΩ,1/16W
R843	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
R844	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R845	NRSA63J-223N	RESISTOR	22kΩ,1/16W
R848	NRSA63J-242N	RESISTOR	2.4kΩ,1/16W
R902	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R903	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R904	NRSA63J-134N	RESISTOR	130kΩ,1/16W
R905	NRSA63J-181N	RESISTOR	180Ω,1/16W
R906	NRSA63J-753N	RESISTOR	75kΩ,1/16W
R907	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R908	NRSA63J-911N	RESISTOR	910Ω,1/16W
R909	NRSA63J-912N	RESISTOR	9.1kΩ,1/16W
R910	NRSA63J-473N	RESISTOR	47kΩ,1/16W

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R911	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R912	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R913	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R914	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R915	NRSA63J-331N	RESISTOR	330Ω,1/16W
R917	NRSA63J-622N	RESISTOR	6.2kΩ,1/16W
R918	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R919	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R920	NRSA63J-123N	RESISTOR	12kΩ,1/16W
R921	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R922	NRSA63J-105N	RESISTOR	1MΩ,1/16W
R923	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R924	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R925	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
R926	NRSA63J-304N	RESISTOR	300kΩ,1/16W
R928	NRSA63J-5R6N	RESISTOR	5.6Ω,1/16W
R929	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R930	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R931	NRSA63J-5R6N	RESISTOR	5.6Ω,1/16W
R932	NRSA63J-390N	RESISTOR	39Ω,1/16W
R933	NRSA63J-390N	RESISTOR	39Ω,1/16W
R935	NRSA63J-5R6N	RESISTOR	5.6Ω,1/16W
R936	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R937	NRSA63J-153N	RESISTOR	15kΩ,1/16W
R938	NRSA63J-5R6N	RESISTOR	5.6Ω,1/16W
R939	NRSA63J-390N	RESISTOR	39Ω,1/16W
R940	NRSA63J-390N	RESISTOR	39Ω,1/16W
R941	NRSA63J-182N	RESISTOR	1.8kΩ,1/16W
R942	NRSA63J-432N	RESISTOR	4.3kΩ,1/16W
R943	NRSA63J-271N	RESISTOR	270Ω,1/16W
R944	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R945	NRSA63J-104N	RESISTOR	100kΩ,1/16W
R946	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R947	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R948	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R949	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R951	NRSA63J-102N	RESISTOR	1kΩ,1/16W
RA401	YU40172-102NY	NETWORK RESISTOR	1KΩ,1/32W x4
RA402	YU40172-102NY	NETWORK RESISTOR	1KΩ,1/32W x4
C401	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C402	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C403	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C404	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C405	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C406	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C407	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C501	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C502	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C503	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C504	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C505	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C506	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C507	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C508	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C509	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C511	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C512	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C513	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C514	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C515	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C516	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C517	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C518	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C601	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C602	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C603	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C604	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C605	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C606	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C607	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C608	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C609	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C611	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C612	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C613	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C614	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C615	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C701	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C702	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C703	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C704	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C705	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C706	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C707	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C708	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C709	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C710	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C711	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C712	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C713	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C714	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C715	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C716	NCB31CK-183A	CAPACITOR	0.018μF,16V
C717	NCB31CK-183A	CAPACITOR	0.018μF,16V
C718	NEE21AM-106RY	E CAPACITOR	10μF,10V
C719	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C720	NEE21AM-335RY	E CAPACITOR	3.3μF,10V
C721	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C722	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C723	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C724	NEE21AM-106RY	E CAPACITOR	10μF,10V
C725	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C726	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C801	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C802	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C803	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C804	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C805	QCFA1CZ-105	CAPACITOR	1μF,16V
C806	QCFA1CZ-105	CAPACITOR	1μF,16V
C807	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C808	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C809	QCFA1CZ-105	CAPACITOR	1μF,16V
C810	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C811	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C812	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C813	NCT07CH-101A	CAPACITOR	100pF,50V
C814	NCT07CH-101A	CAPACITOR	100pF,50V
C815	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C816	QCYA1EK-104	CAPACITOR	0.1μF,25V
C817	NCB31EK-103A	CAPACITOR	0.01μF,25V
C818	NCB31EK-103A	CAPACITOR	0.01μF,25V
C819	NCB31EK-103A	CAPACITOR	0.01μF,25V
C820	QCYA1EK-473	CAPACITOR	0.047μF,25V
C821	QCYA1EK-104	CAPACITOR	0.1μF,25V

#△ REF No.	PART No.	PART NAME, DESCRIPTION	
C822	NCB31EK-103A	CAPACITOR	0.01μF,25V
C823	NCT07CH-100A	CAPACITOR	10pF,50V
C824	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C825	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C826	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C827	NCB31EK-103A	CAPACITOR	0.01μF,25V
C828	NCB31EK-103A	CAPACITOR	0.01μF,25V
C829	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C830	NCB31EK-103A	CAPACITOR	0.01μF,25V
C831	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C832	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C833	NCB31EK-103A	CAPACITOR	0.01μF,25V
C834	NCB31EK-103A	CAPACITOR	0.01μF,25V
C835	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C836	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C837	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C901	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C902	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C904	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C905	QCYA1EK-104	CAPACITOR	0.1μF,25V
C907	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C908	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C909	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C911	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C912	NCB31EK-153A	CAPACITOR	0.015μF,25V
C913	QCYA1EK-104	CAPACITOR	0.1μF,25V
C914	NCB31EK-103A	CAPACITOR	0.01μF,25V
C915	NEE21CM-226RZ	E CAPACITOR	22μF,16V
C916	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C917	NCB31HK-103A	CAPACITOR	0.01μF,50V
C918	NCB31HK-103A	CAPACITOR	0.01μF,50V
C919	NCB31HK-103A	CAPACITOR	0.01μF,50V
C920	NCB31HK-332A	CAPACITOR	0.0033μF,50V
C921	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C922	NCB31EK-103A	CAPACITOR	0.01μF,25V
C923	NCB31EK-103A	CAPACITOR	0.01μF,25V
C924	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C925	NEE21AM-106RY	E CAPACITOR	10μF,10V
C926	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C928	NCB31HK-332A	CAPACITOR	0.0033μF,50V
C929	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C930	NCB31EK-103A	CAPACITOR	0.01μF,25V
C931	NCB31EK-103A	CAPACITOR	0.01μF,25V
C932	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C933	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C934	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C935	NEE21AM-106RY	E CAPACITOR	10μF,10V
C936	QCFA1CZ-105	CAPACITOR	1μF,16V
L401	YU40740-220K	COIL	22μH
L402	YU40740-220K	COIL	22μH
L501	YU40740-220K	COIL	22μH
L502	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
L503	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
L504	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
L505	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
L506	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
L507	YU40740-220K	COIL	22μH
L508	YU40740-220K	COIL	22μH
L509	QRSA08J-0R0Y	RESISTOR	0Ω,1/10W
L601	YU40740-220K	COIL	22μH
L602	YU40740-220K	COIL	22μH
L701	YU40740-220K	COIL	22μH
L702	YU40740-220K	COIL	22μH
L801	YU40740-220K	COIL	22μH
L802	YU40740-220K	COIL	22μH
L803	YU40740-220K	COIL	22μH
L901	YU40740-220K	COIL	22μH
L902	YU40740-390K	COIL	39μH
L903	YU40740-220K	COIL	22μH
EQ801	PELN1057-Z	EQUALIZER	
BPF801	PELN1055-Z	BAND PASS FILTER	
△ X701	PEVB0582-Z	RESONATOR	
CN201	PEMC0880-028-X	CONNECTOR	
CN202	PEMC0880-022-R	CONNECTOR	
CN203	PEMC0880-018-R	CONNECTOR	

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UPPER DRUM BOARD <40>

PWB	YDM3073-4	BOARD (UPPER DRUM)	

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E. VF BOARD ASSEMBLY (GR-AX800U) <50>

PWBA	YQ31803-500	E.VF BOARD ASSY	
IC1	BA7149F	IC	
Q1	2SA1037K	TRANSISTOR,TR1	
	or 2SA1179	TRANSISTOR,TR1	
	or 2SA1235	TRANSISTOR,TR1	
Q2	2SC4132	TRANSISTOR,TR2	
Q3	2SC4618	TRANSISTOR,TR3	
	or 2SC4655	TRANSISTOR,TR3	
D1	RLS245	DIODE	
R1	YQ31803-501	RESISTOR	9.1kΩ,1/10W
R2	QRSA08G-333YN	RESISTOR	33kΩ,1/10W
R3	QRSA08J-3R9YN	RESISTOR	3.9Ω,1/10W
R4	QRSA08J-390YN	RESISTOR	39Ω,1/10W
R5	YU30595-111	RESISTOR	390kΩ,1/10W
R6	YU30595-113	RESISTOR	91kΩ,1/10W
R7	QRSA08J-103YN	RESISTOR	10kΩ,1/10W
R8	YQ31803-502	RESISTOR	2.2kΩ,1/10W
R9	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
VR1	YQ31803-504	V RESISTOR,V SIZE	470Ω
VR2	YQ31803-505	V RESISTOR,H HOLD	47k
VR4	YQ31803-506	V RESISTOR,BRIGHT	1M
R10	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R11	QRSA08J-330YN	RESISTOR	33Ω,10W
R12	QRSA08J-113YN	RESISTOR	11kΩ,1/10W
R13	YQ31803-503	RESISTOR	3.9kΩ,1/10W
R14	QRSA08J-822YN	RESISTOR	8.2kΩ,1/10W
R15	QRSA08J-182YN	RESISTOR	1.8kΩ,1/10W
R16	QRSA08J-332YN	RESISTOR	3.3kΩ,1/10W
R17	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
R18	QRSA08J-471YN	RESISTOR	470Ω,1/10W
R19	QRSA08F-103YN	RESISTOR	10kΩ,1/10W
R20	QRSA08F-152YN	RESISTOR	1.5kΩ,1/10W

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	R21	QRSA08J-275YN	RESISTOR	2.7MΩ,1/10W
	R22	QRSA08J-275YN	RESISTOR	2.7MΩ,1/10W
	R23	QRSA08J-105YN	RESISTOR	1MΩ,1/10W
	R24	QRSA08J-154YN	RESISTOR	150kΩ,1/10W
	R25	QRSA08J-2R7YN	RESISTOR	2.7Ω,1/10W
	R26	QRSA08J-472YN	RESISTOR	4.7kΩ,1/10W
	R27	QRSA08J-102YN	RESISTOR	1kΩ,1/10W
	C1	YQ31803-507	CAPACITOR	0.22µF,16V
	C2	YQ31304-503	CAPACITOR	1µF,16V
	C3	YQ31304-504	CAPACITOR	1500pF,50V
	C4	YQ31304-503	CAPACITOR	1µF,16V
	C5	YQ31304-506	E CAPACITOR	100µF,10V
	C6	YQ31304-506	E CAPACITOR	100µF,10V
	C7	YQ31304-506	E CAPACITOR	100µF,10V
	C8	YQ31304-503	CAPACITOR	1µF,16V
	C9	YQ31392-501	CAPACITOR	100pF,16V
	C10	YU30531-163	CAPACITOR	0.047µF
	C11	QER61HM-100	E CAPACITOR	10pF,50V
	C12	YQ31803-508	F CAPACITOR	6200pF,100V
	C13	YQ31304-506	E CAPACITOR	100µF,10V
	C14	YQ31304-507	CAPACITOR	1500pF,630V
	L1	YQ30723-115	COIL	100µH
	TH1	YU30236-110	THERMISTOR	
	WR1	YQ31803-580	FPC	
⚠	FBT1	YQ31803-550	FLY BACK TRANS	
	HLC1	YQ31803-560	H.COIL	
	CN1	YQ31803-570	CONNECTOR	
	CN2	YQ31803-571	CONNECTOR	
	CN3	YQ31803-572	CONNECTOR	

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PBL BOARD ASSEMBLY(GR-AX900U/U(C)) <51>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA1	YB20727C1-02	PBL BOARD ASSY	
	IC101	TC7W04FU	IC	
	IC102	TA75S01F	IC	
	IC103	FA7615M-XE	IC	
	Q101	2SC3646(ST)	TRANSISTOR	
	Q102	2SK1254S	TRANSISTOR	
	D101	MA110	DIODE	
	D103	SB07-03C-X	SB DIODE	
	D104	MA110	DIODE	
	R101	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R102	NRSA63J-105N	RESISTOR	1MΩ,1/16W
	R103	NRVA63D-123N	MF RESISTOR	12kΩ,1/16W
	R104	NRSA63J-274N	RESISTOR	270kΩ,1/16W
	R106	NRVA63D-202N	RESISTOR	2kΩ,1/16W
	R107	NRVA63D-563N	MF RESISTOR	56kΩ,1/16W
	R108	NRVA63D-133N	MF RESISTOR	13kΩ,1/16W
	R109	NRVA63D-563N	MF RESISTOR	56kΩ,1/16W
	R111	NRSA63J-274N	RESISTOR	270kΩ,1/16W
	R112	NRSA63J-104N	RESISTOR	100kΩ,1/16W
	R113	NRVA63D-223N	MF RESISTOR	22kΩ,1/16W
	R115	NRVA63D-223N	MF RESISTOR	22kΩ,1/16W
	R116	NRVA63D-223N	MF RESISTOR	22kΩ,1/16W
	R117	NRVA63D-472N	MF RESISTOR	4.7kΩ,1/16W
	R118	NRSA63J-682N	RESISTOR	6.8kΩ,1/16W
	R120	NRSA63J-681N	RESISTOR	680Ω,1/16W
	R121	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R123	NRSA63J-683N	RESISTOR	68kΩ,1/16W
	R124	NVP1202-102N	V RESISTOR,REG 13.5V	1kΩ,1/2W
	R125	NRSA63J-222N	RESISTOR	2.2kΩ,1/16W
	R126	NRSA63J-472N	RESISTOR	4.7kΩ,1/16W
	R127	NRSA63J-333N	RESISTOR	33kΩ,1/16W
	R128	NRSA63J-103N	RESISTOR	10kΩ,1/16W
	R129	NRSA63J-104N	RESISTOR	100kΩ,1/16W
	R130	NRSA63J-273N	RESISTOR	27kΩ,1/16W
	R131	NRVA63D-151N	MF RESISTOR	150Ω,1/16W
	R135	NRSA63J-623N	RESISTOR	62kΩ,1/16W
	R136	NVP1202-223N	V RESISTOR,BRIGHT	22kΩ,1/2W
	R137	NRSA63J-473N	RESISTOR	47kΩ,1/16W
	R138	NRSA63J-393N	RESISTOR	39kΩ,1/16W
	R139	NVP1202-223N	V RESISTOR,COLOR LEVEL	22kΩ,1/2W
	R140	NRSA63J-473N	RESISTOR	47kΩ,1/16W
	R141	NRSA63J-184N	RESISTOR	180kΩ,1/16W
	C101	NCB31EK-103A	CAPACITOR	0.01µF,25V
	C102	QCFA1CZ-105	CAPACITOR	1µF,16V
	C103	NCB31EK-103A	CAPACITOR	0.01µF,25V
	C104	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C105	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C106	QCTA2CH-122	CAPACITOR	0.0012µF,160V
	C107	YU41970-G476XW	E CAPACITOR	47µF
	C108	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C109	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C110	NEE21AM-476RZ	E CAPACITOR	47µF,10V
	C111	QCFA1CZ-225	CAPACITOR	2.2µF,16V
	C112	NCB31EK-223A	CAPACITOR	0.022µF,25V
	C113	NCT07CH-330A	CAPACITOR	33pF,50V
	C114	NEE21DM-226RZ	E CAPACITOR	22µF,20V
	C115	NCF31CZ-104A	CAPACITOR	0.1µF,16V
	C116	NEE21CM-336RZ	E CAPACITOR	33µF,16V
	C117	QCFA1CZ-225	CAPACITOR	2.2µF,16V
	C120	NEE20JM-225RY	E CAPACITOR	2.2µF,6.3V
	C121	YU41970-A106AW	E CAPACITOR	10pF
	L101	YU41135-220K	COIL	22µH
	L102	PELN0999-681MP	COIL	680µH
	L103	YU41135-220K	COIL	22µH
	T101	PELN1069-R	SW TRANS	
	CN101	PEMC0855-010-R	CONNECTOR	
	CN102	PEMC0967-012-P	CONNECTOR	
	CN103	PEMC0907-010-P	CONNECTOR	

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CLD BOARD ASSEMBLY(GR-AX900U/U(C)) <52>

#⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
	PWBA2	YB20727C2-02	CLD BOARD ASSY	
	IC201	CXA1785AR	IC	
	IC202	CXD2403AR	IC	
	Q201	XP2501	TRANSISTOR	
	D201	MA365	DIODE	
	R201	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	R202	NRSA63J-102N	RESISTOR	1kΩ,1/16W
	R205	NRSA63J-105N	RESISTOR	1MΩ,1/16W
	R206	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
	R207	NRSA63J-105N	RESISTOR	1MΩ,1/16W
	R211	NRSA63J-223N	RESISTOR	22kΩ,1/16W

#⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
R212	NVP1202-223N	V RESISTOR,COLOR PHASE	22kΩ,1/2W
R213	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R214	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R215	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R216	NRSA63J-822N	RESISTOR	8.2kΩ,1/16W
R217	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R219	NRVA63D-273N	MF RESISTOR	27kΩ,1/16W
R220	NRVA63D-243N	RESISTOR	24kΩ,1/16W
R222	NRVA63D-223N	MF RESISTOR	22kΩ,1/16W
R223	NRVA63D-273N	MF RESISTOR	27kΩ,1/16W
R224	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R225	NVP1202-223N	V RESISTOR,SUB BRT R	22kΩ,1/2W
R226	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R227	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R228	NVP1202-223N	V RESISTOR,SUB BRT B	22kΩ,1/2W
R229	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R235	NRSA63J-752N	RESISTOR	7.5kΩ,1/16W
R236	NRSA63J-102N	RESISTOR	1kΩ,1/16W
R246	NRSA63J-0R0N	RESISTOR	0Ω,1/16W
R248	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R249	NVP1202-223N	V RESISTOR,CONTRAST	22kΩ,1/2W
R250	NRSA63J-393N	RESISTOR	39kΩ,1/16W
R251	NRVA63D-183N	MF RESISTOR	18kΩ,1/16W
R252	NRSA63J-564N	RESISTOR	560kΩ,1/16W
R253	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R254	NRSA63J-563N	RESISTOR	56kΩ,1/16W
R255	NRSA63J-271N	RESISTOR	270Ω,1/16W
R257	NRVA63D-332N	MF RESISTOR	3.3kΩ,1/16W
R258	NRVA63D-472N	MF RESISTOR	4.7kΩ,1/16W
R259	NRSA63J-562N	RESISTOR	5.6kΩ,1/16W
R260	NRSA63J-474N	RESISTOR	470kΩ,1/16W
R261	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R262	NRSA63J-333N	RESISTOR	33kΩ,1/16W
R263	NRSA63J-103N	RESISTOR	10kΩ,1/16W
R264	NRSA63J-333N	RESISTOR	33kΩ,1/16W
R265	NVP1202-223N	V RESISTOR,PLL	22kΩ,1/2W
R266	NRSA63J-473N	RESISTOR	47kΩ,1/16W
R270	NRVA63D-122N	MF RESISTOR	1.2kΩ,1/16W
R271	NRVA63D-183N	MF RESISTOR	18kΩ,1/16W
R274	NRVA63D-563N	MF RESISTOR	56kΩ,1/16W
R275	NRVA63D-363N	MF RESISTOR	36kΩ,1/16W
C201	NEE21AM-225RY	E CAPACITOR	2.2μF,10V
C202	YU41970-J106AW	E CAPACITOR	10μF,6.3V
C204	NCB31HK-681A	CAPACITOR	680pF,50V
C206	NCF31CZ-473A	CAPACITOR	0.047μF,16V
C209	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C211	NCB31EK-103A	CAPACITOR	0.01μF,25V
C212	NCB31EK-103A	CAPACITOR	0.01μF,25V
C213	QCFA1CZ-474	CAPACITOR	0.47μF,16V
C214	QCFA1CZ-105	CAPACITOR	1μF,16V
C215	QCFA1CZ-105	CAPACITOR	1μF,16V
C216	QCFA1CZ-105	CAPACITOR	1μF,16V
C217	NEE21CM-225RY	E CAPACITOR	2.2μF,16V
C218	NCB31EK-103A	CAPACITOR	0.01μF,25V
C219	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C220	NCB31EK-103A	CAPACITOR	0.01μF,25V
C221	NCB31EK-103A	CAPACITOR	0.01μF,25V
C222	NCB31EK-103A	CAPACITOR	0.01μF,25V
C223	NCB31EK-103A	CAPACITOR	0.01μF,25V
C224	NCB31EK-103A	CAPACITOR	0.01μF,25V
C225	NCB31EK-103A	CAPACITOR	0.01μF,25V
C226	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C227	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C228	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C229	NCB31EK-103A	CAPACITOR	0.01μF,25V
C230	NCB31HK-682A	CAPACITOR	0.0068μF,50V
C231	NEE21AM-225RY	E CAPACITOR	2.2μF,10V
C232	NCB31EK-103A	CAPACITOR	0.01μF,25V
C233	QCFA1CZ-105	CAPACITOR	1μF,16V
C234	NEE21AM-225RY	E CAPACITOR	2.2μF,10V
C235	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C237	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C238	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C239	QCF81CZ-225	CAPACITOR	2.2μF,16V
C240	NCB31HK-332A	CAPACITOR	0.0033μF,50V
C241	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C242	NCT07CH-101A	CAPACITOR	100pF,50V
C243	NCB31HK-102A	CAPACITOR	0.001μF,50V
C244	NCB31EK-103A	CAPACITOR	0.01μF,25V
C245	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C246	NEE21CM-225RY	E CAPACITOR	2.2μF,16V
C247	NCF31CZ-104A	CAPACITOR	0.1μF,16V
C249	NCF31CZ-104A	CAPACITOR	0.1μF,16V
L201	PELN0584-100JY	COIL	10μH
L203	PELN0584-100JY	COIL	10μH
L204	PELN0584-100JY	COIL	10μH
L205	PELN0865-6R8KY	COIL	6.8μH
TRAP201	YU41325-3R6B-Z	CHIP TRAP	
⚠ X201	PEVB0592-R	CRYSTAL RESONATOR	
CN201	YU41358-12-R	CONNECTOR	
CN202	PEMC0880-016-R	CONNECTOR	

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BL BOARD ASSEMBLY(GR-AX900U/U(C)) <53>

PWBA3	YB20727C3-02	PBL BOARD ASSY
BL301	PEDP0176	LAMP
CN301	YU41359-10-P	CONNECTOR

SECTION 6
TECHNICAL INFORMATION

6.1 EMERGENCY DISPLAY

Whenever some abnormal signal is supplied to mechacon CPU, an error number (E 04, for example) displayed on the electronic view finder.

E. VF DISPLAY	Symptom	Mode when observed	Resulting mode
E 06	CAPSTAN FG input absent	EDIT	STOP
E 04	DRUM FF input absent	DRUM rotation	STOP
E 03	SUPPLY REEL FG input absent	REC, PLAY, SEARCH, FF	STOP
E 02	Mode control motor rotates for more than 10 sec, without shift to next mode.	UNLOADING	Mode continues
E 01	Mode control motor rotates for more than 10 sec, without shift to next mode.	LOADING	Mode continues

Emergency mode : Indication for 5 minutes, then power OFF
Port states : Same as Stop mode
Effective key : POWER
Shifted mode : Power OFF

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